COUNTY BOROUGH OF SUNDERLAND.

ANNUAL REPORT

ON THE

Health and Sanitary Condition of Sunderland,

FOR THE YEAR 1909.

HENRY RENNEY, M.D., B.S., D.Hy., D.P.H.,

MEDICAL OFFICER OF HEALTH,

MEDICAL SUPERINTENDENT OF THE BOROUGH SANATORIUM.

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HEALTH DEPARTMENT,

TOWN HALL,

SUNDERLAND.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I beg to submit, for your consideration, my Report on the Health of the Borough and the work of the Health Department for the year 1909.

I am, Gentlemen,

Your obedient Servant,

HENRY RENNEY,

Medical Officer of Health.

April, 1910.

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STATISTICAL SUMMARY, 1909.

Area of the Borough	3,357 acres.
Inhabited Houses (Census, 1901)	21,473
Population (Census, 1901)	146,077
,, (Estimated, 1909)	159 137
Births	4,765
Birth-rate per 1,000 Inhabitants	29·4
Deaths	2,763
Death-rate per 1,000 Inhabitants... ...	17·0
,, from Zymotic Diseases ...	1·9
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,, from Phthisis...	1·1
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County Borough of Sunderland.

HEALTH DEPARTMENT.

ANNUAL REPORT

FOR THE YEAR 1909.

POPULATION.

The population, estimated to the middle of 1909, was 159,137, being an increase of 1,642.

The population is an estimation based on the Census Returns. This estimate is liable to error; indeed it is never quite accurate, and it would greatly facilitate a correct return of the population for each inter-censal year if the Census were taken every five years instead of every ten as at present.

Table A shows the estimated population in each of the three registration sub-districts of the Borough, the area of these districts, and the number of people per acre.

TABLE A.

	Population.	Area in Acres.	Density of Population per Acre.
Sunderland East.....	58,974	897	65·6
„ West	65,570	1,724	38·0
„ North	34,593	736	47·0
Borough	159,137	3,357	47·3

Table B shows the Age and Sex Distribution (estimated to the middle of the year). For instance, taking line No. 1—there were in 1909 estimated to be 4,619 persons living under the age of 1 year, of whom 2,298 were males and 2,321 females.

TABLE B.

At Ages.	Persons.	Males.	Females.
Under 1 year	4619	2298	2321
1 to 5 years	15241	7694	7547
5 „ 10 „	16788	8404	8384
10 „ 15 „	16548	8385	8163
15 „ 20 „	16863	8131	8732
20 „ 25 „	16296	7555	8741
25 „ 30 „	14478	7002	7476
30 „ 35 „	11393	5548	5846
35 „ 40 „	10153	5001	5152
40 „ 45 „	8095	3789	4306
45 „ 50 „	7611	3791	3820
50 „ 55 „	6117	3200	2917
55 „ 60 „	5151	2702	2449
60 „ 65 „	3808	1852	1956
65 „ 70 „	2595	1245	1350
70 „ 75 „	1781	829	952
75 „ 80 „	927	441	486
80 „ 85 „	536	173	362
85 and upwards	137	51	86
Totals	159137	78091	81046

CENSUS POPULATION.

The Census population of 1901 was 146,077; 71,533 being males, and 74,494 females.

The Census populations of the various Wards were as follows:—

Bishopwearmouth	9,964	Monkwearmouth-Shore...	10,709
Bridge	12,944	Pallion	8,560
Central	9,433	Park	9,643
Colliery	8,179	Roker	6,975
Deptford	10,501	St. Michael's	8,098
East	9,524	Sunderland	9,829
Hendon	5,750	Thornhill	9,230
Monkwearmouth	5,869	West	10,869

MARRIAGES.

The number of Marriages registered in the Registration District of Sunderland (which, in addition to the Municipal Area, includes the Townships of Ford, Tunstall, Ryhope, Fulwell, Southwick, and Hylton), during each of the past ten years is as under:—

Year.	No. of Marriages.	Year.	No. of Marriages.
1900	1,623	1905	1,572
1901	1,625	1906	1,757
1902	1,559	1907	1,683
1903	1,457	1908	1,361
1904	1,545	1909	1,412

BIRTHS.

The Births registered during the year 1909 numbered 4,765 the birth-rate being 29·4 per 1,000 of the population.

The number of Births in 1909 shows a decrease of 415 as compared with that of the previous year, and the Birth-rate is 3·5 lower. The rate is 3·7 per 1,000 higher than the average Birth-rate of the 76 large towns. It has been falling for the last 8 years. There has been a considerable drop in 1909, the Birth-rate for this year being the lowest yet recorded.

The Birth-rates during the 1st, 2nd, 3rd, and 4th quarters were 34·4, 31·1, 27·2, and 27·7 per 1,000 respectively.

The Birth-rate in the 76 large towns of England and Wales was 25·7 per 1,000 of the population.

Table showing the number of Births of Males and Females, together with the Birth-rates for the 10 years, 1900 to 1909:—

TABLE C.

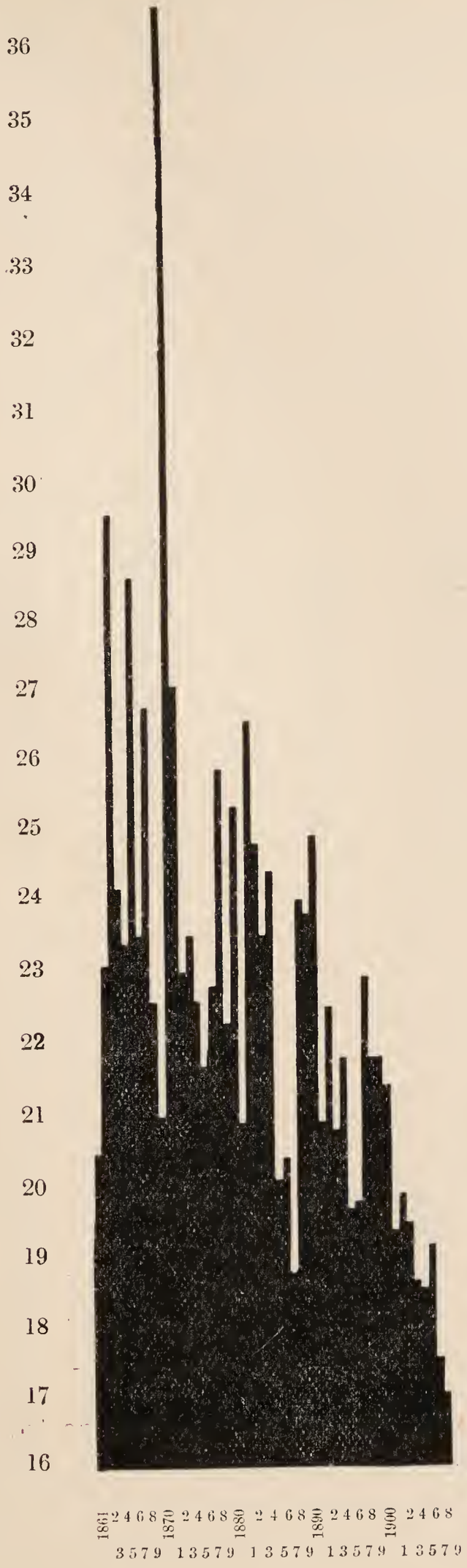
Year.	Births.			Birth Rate.
	M.	F.	Total.	
1900	2720	2536	5256	36·3
1901	2588	2691	5279	36·0
1902	2742	2649	5391	35·7
1903	2598	2597	5195	34·5
1904	2654	2540	5194	34·3
1905	2615	2608	5223	34·2
1906	2786	2589	5375	34·8
1907	2746	2584	5330	34·2
1908	2628	2552	5180	32·9
1909	2493	2272	4765	29·4

FEMALES AT CHILD-BEARING AGE.

For comparison of Birth-rates it is more important to know the number of children born per 1,000 women at child-bearing age, than the number born per thousand of the population. The following Table is an estimation of the number of females living in Sunderland at child-bearing years, for the last ten years, (calculated from the Census Returns for the years 1891 and 1901), and the number of children born in each year :—

Year.	Estimated Number of Women at Child-bearing Age.	Number of Children Born.	Number of Children Born per 1000 Women at Child-bearing Age.
1900	35834	5256	146
1901	36269	5279	145
1902	36709	5391	147
1903	37154	5195	139
1904	37605	5194	138
1905	38062	5223	137
1906	38755	5375	138
1907	39197	5330	136
1908	39683	5180	130
1909	40252	4765	116

Showing Death-rates per 1000 from 1861 to 1909.



THE DEATH-RATE.

It is satisfactory, once more, to have to record a reduction in the Death-rate, which has fallen from 17·5 in 1908 to 17·0 in 1909.

We are also approaching somewhat nearer to the average Death-rate of the 76 large towns—in 1907 the difference was 3·7, in 1908 2·6, and in 1909 2·3. The Deaths registered during the year (including the Deaths in the Borough Asylum) numbered 2,763.

The following Table, which gives the Death-rate per 1,000 since 1873, shows that the RATE FOR 1909 is the LOWEST ON RECORD:—

Death-Rates per 1,000 of the Population (1873—1909).

Year.	Rate per 1,000.	Year	Rate per 1,000.	Year.	Rate per 1,000.
1873 ..	22·7	1886 ...	20·0	1899 ...	21·7
1874 ...	23·6	1887 ...	20·3	1900 ...	21·7
1875 ...	22·4	1888 ...	18·7	1901 ...	21·3
1876 ...	20·8	1889 ...	23·9	1902 ...	19·3
1877 ...	22·5	1890 ...	23·7	1903 ...	19·8
1878 ...	25·5	1891 ...	24·8	1904 ...	19·4
1879 ...	21·8	1892 ...	20·8	1905 ...	18·6
1880 ...	24·4	1893 ...	22·4	1906 ...	18·5
1881 ...	20·9	1894 ...	20·7	1907 ...	19·1
1882 ...	26·4	1895 ...	21·7	1908 ...	17·5
1883 ...	24·7	1896 ...	19·6	1909 ...	17·0
1884 ...	23·3	1897 ...	19·7		
1885 ...	24·3	1898 ...	22·8		

The Death-rates in the quarters during 1909 were as follows:—

1st quarter—Deaths 845...Rate 21·2 per 1,000.
2nd „ „ 671 „ 16·8 „
3rd „ „ 514 „ 12·9 „
4th „ „ 733 „ 17·1 „

The Death-rates in the Registration Sub-Districts of the Borough were as follows:—

Sunderland East ..... 18·8 per 1,000.
Sunderland West ..... 15·4 „
Sunderland North ..... 17·2 „

The average Death-rate for the 76 large towns of England and Wales for 1909 was 14·7 per 1,000.

The following Table shows the Death-rate from all causes, from three principal Zymotic Diseases, and the Infantile Mortality figure of the 76 towns of England and Wales, for 1909:—

TABLE D.

Towns.	Death Rates per 1000 from all causes.	Death Rate per 1,000 from			Infant Mortality per 1000 Births.
		Diphtheria	Enteric Fever.	Diarrhœa.	
London	14·0	0·13	0·03	0·33	107
Croydon	11·7	0·15	0·02	0·12	80
Willesden	10·4	0·06	0·04	0·33	94
Hornsey	8·3	0·11	...	0·09	62
Tottenham	11·5	0·16	...	0·18	89
West Ham	14·0	0·13	0·02	0·65	125
East Ham	9·9	0·17	0·08	0·22	100
Leyton	10·3	0·21	0·03	0·15	82
Walthamstow	9·6	0·11	0·02	0·17	91
Hastings	12·5	0·11	...	0·10	79
Brighton	15·3	0·15	0·05	0·21	97
Portsmouth	14·2	0·31	0·15	0·25	95
Bournemouth	13·7	0·11	...	0·18	102
Southampton	13·4	0·15	0·09	0·42	106
Reading	11·5	0·11	0·04	0·29	95
Northampton	13·3	0·10	0·03	0·26	111
Ipswich	13·2	0·08	0·04	0·15	93
Great Yarmouth	17·5	0·08	...	0·42	126
Norwich	13·9	0·15	0·08	0·41	119
Plymouth	14·5	0·15	0·07	0·32	130
Devonport	11·6	0·24	0·10	0·48	96
Bristol	12·7	0·14	0·03	0·27	101
Hanley	18·1	0·48	0·32	0·58	154
Burton-on-Trent	12·0	0·17	0·02	0·17	102
Wolverhampton	16·0	0·11	0·03	0·29	139
Walsall	14·6	0·08	0·05	0·76	139
Handsworth	9·8	0·16	0·03	0·24	86
West Bromwich	15·3	0·14	0·10	0·48	123
Birmingham	15·4	0·16	0·04	0·45	134
King's Norton	9·8	0·31	...	0·08	72
Smethwick	12·8	0·16	0·07	0·56	112
Aston Manor	13·0	0·10	0·05	0·42	125
Coventry	16·0	0·14	0·06	0·25	97
Leicester	12·9	0·06	0·02	0·43	127
Grimsby	13·3	0·10	0·25	0·51	118
Nottingham	16·3	0·10	0·08	0·69	150
Derby	13·4	0·26	0·02	0·26	124
Stockport	16·5	0·21	0·05	0·43	133
Birkenhead	15·9	0·15	0·04	0·40	125
Wallasey	12·8	0·13	0·04	0·27	84
Liverpool	19·0	0·15	0·07	0·70	144
Bootle	16·9	0·13	0·05	0·78	123
St. Helens	18·6	0·12	0·14	0·33	151

TABLE D.—Continued.

Towns.	Death Rates per 1000 from all causes.	Death Rate per 1000 from			Infant Mortality per 1000 Births.
		Diphtheria.	Enteric Fever.	Diarrhœa	
Wigan	19·0	0·08	0·18	0·69	173
Warrington	17·1	0·33	0·20	0·63	130
Bolton	15·1	0·09	0·18	0·33	129
Bury	16·2	0·09	0·07	0·36	130
Manchester	17·9	0·18	0·14	0·43	135
Salford	18·0	0·44	0·18	0·50	142
Oldham	19·1	0·10	0·09	0·37	122
Rochdale	16·2	0·14	0·03	0·14	104
Burnley	16·1	0·14	0·08	0·58	157
Blackburn	16·3	0·15	0·14	0·35	127
Preston	15·9	0·10	0·10	0·33	137
Barrow-in-Furness	12·2	0·22	0·08	0·14	82
Huddersfield	16·3	0·20	0·11	0·27	96
Halifax	13·8	0·24	0·06	0·12	98
Bradford	14·5	0·19	0·05	0·16	117
Leeds	14·1	0·13	0·09	0·23	122
Sheffield	15·1	0·08	0·07	0·55	119
Rotherham	13·2	0·14	0·15	0·59	116
York	11·4	0·06	0·04	0·23	99
Hull	14·9	0·23	0·04	0·57	115
Middlesbrough	19·1	0·21	0·15	0·83	158
Stockton-on-Tees	13·9	0·08	0·02	0·25	121
West Hartlepool	11·9	0·15	0·04	0·11	113
Sunderland	17·0	0·20	0·09	0·33	136
South Shields	15·1	0·17	0·04	0·38	138
Gateshead	12·7	0·12	0·01	0·34	113
Newcastle-on-Tyne	14·8	0·19	0·06	0·20	120
Tynemouth	17·4	0·22	0·02	0·43	129
Newport (Mon.)	15·3	0·10	0·06	0·29	116
Cardiff	13·1	0·07	0·04	0·32	104
Rhondda	16·4	0·25	0·03	0·97	129
Merthyr Tydvil	17·7	0·19	0·05	0·49	143
Swansea	19·4	0·06	0·04	0·84	159

TABLE E.

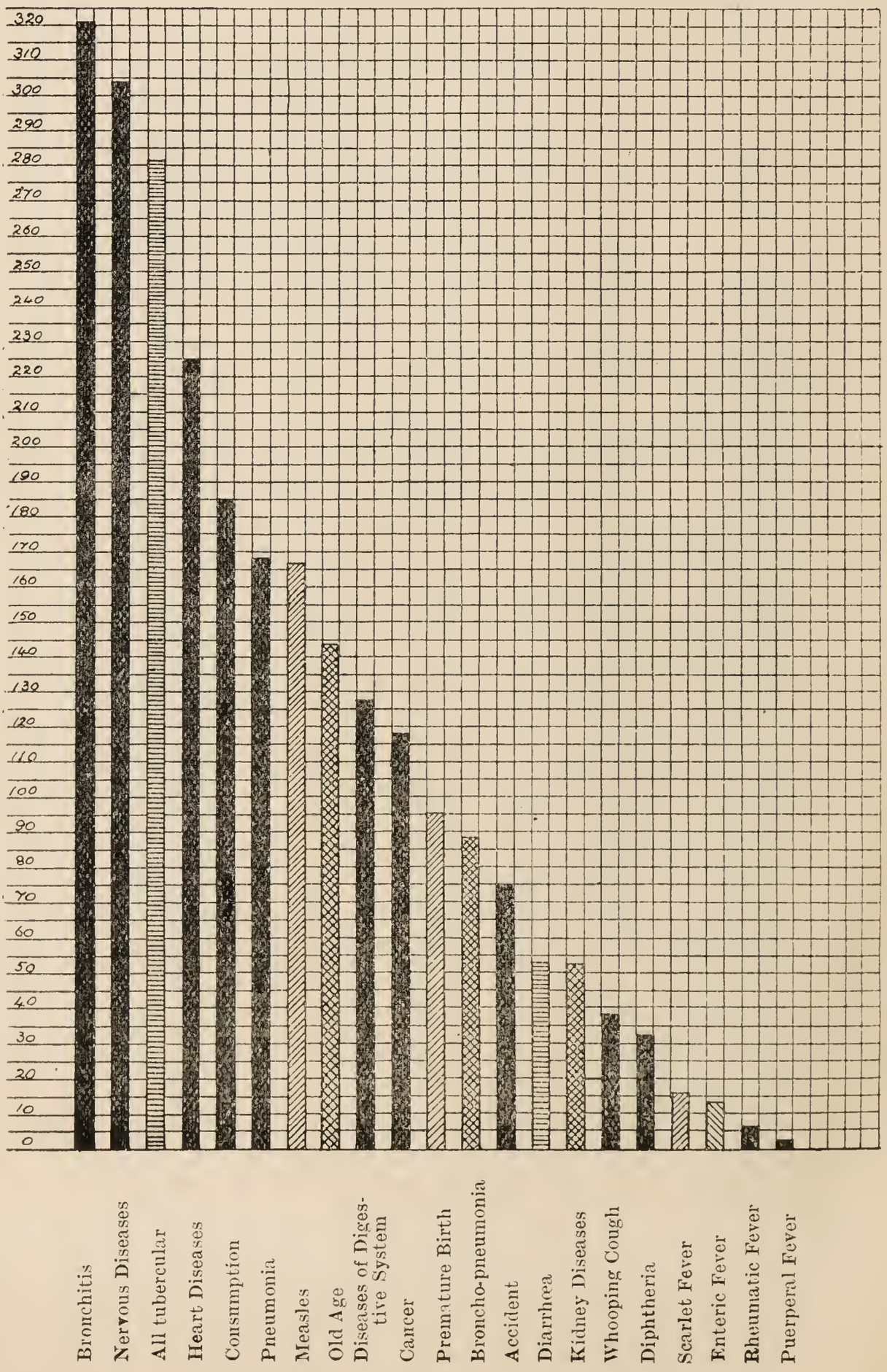
Table E shows the deaths from the principal diseases in the four quarters of 1908 and 1909.

Diseases.	1909.				1908.				1909	1908
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total. (53 Weeks.)	Total. (52 Weeks.)
Smallpox	...	...	...	...	...	...	...	...	...	...
Measles	100	55	9	2	1	1	1	20	166	23
Scarlet Fever	3	5	2	6	...	2	2	1	16	5
Diphtheria	10	3	4	15	8	9	7	4	32	28
Whooping Cough..	3	7	5	23	74	39	3	4	38	120
Enteric Fever.....	4	1	3	6	6	...	7	3	14	16
Diarrhœa	4	5	24	20	1	6	44	42	53	93
Syphilis	2	2	...	3	3	...	1	3	7	7
Puerperal Fever...	2	...	...	1	...	..	1	...	3	1
Alcoholism	...	1	3	...	2	...	1	...	4	3
Rheumatic Fever..	2	1	...	3	1	...	1	2	6	4
Cancer	26	27	37	27	33	29	29	34	117	125
Tabes Mesenterica	8	8	9	2	7	6	4	10	27	27
Tubercular Meningitis	8	6	9	6	10	7	5	5	29	27
Phthisis	63	52	28	41	52	54	37	49	184	192
Other Tubercular Diseases	12	11	9	9	11	13	6	13	41	43
Premature Birth...	28	28	18	21	26	25	25	25	95	101
Old Age	49	23	24	48	54	37	39	38	144	168
Diseases of the Nervous System	100	85	52	67	82	75	77	61	304	295
Diseases of the Heart	59	56	52	58	62	48	39	59	225	208
Bronchitis	92	73	40	116	146	64	40	92	321	342
Pneumonia and Pleuro Pneumonia	47	45	27	48	63	42	22	49	167	177
Broncho Pneumonia	30	24	7	27	41	15	10	32	88	98
Diseases of the Digestive System	31	25	35	36	36	27	46	38	127	147
Inflammation of the Kidneys and Bright's Disease	15	13	11	13	18	15	18	16	52	67
Accident	27	14	20	14	14	18	25	19	75	76
Homicide.....	1	1	2	...	...	...	...	1	4	1
Suicide	4	8	5	4	3	1	3	2	21	9

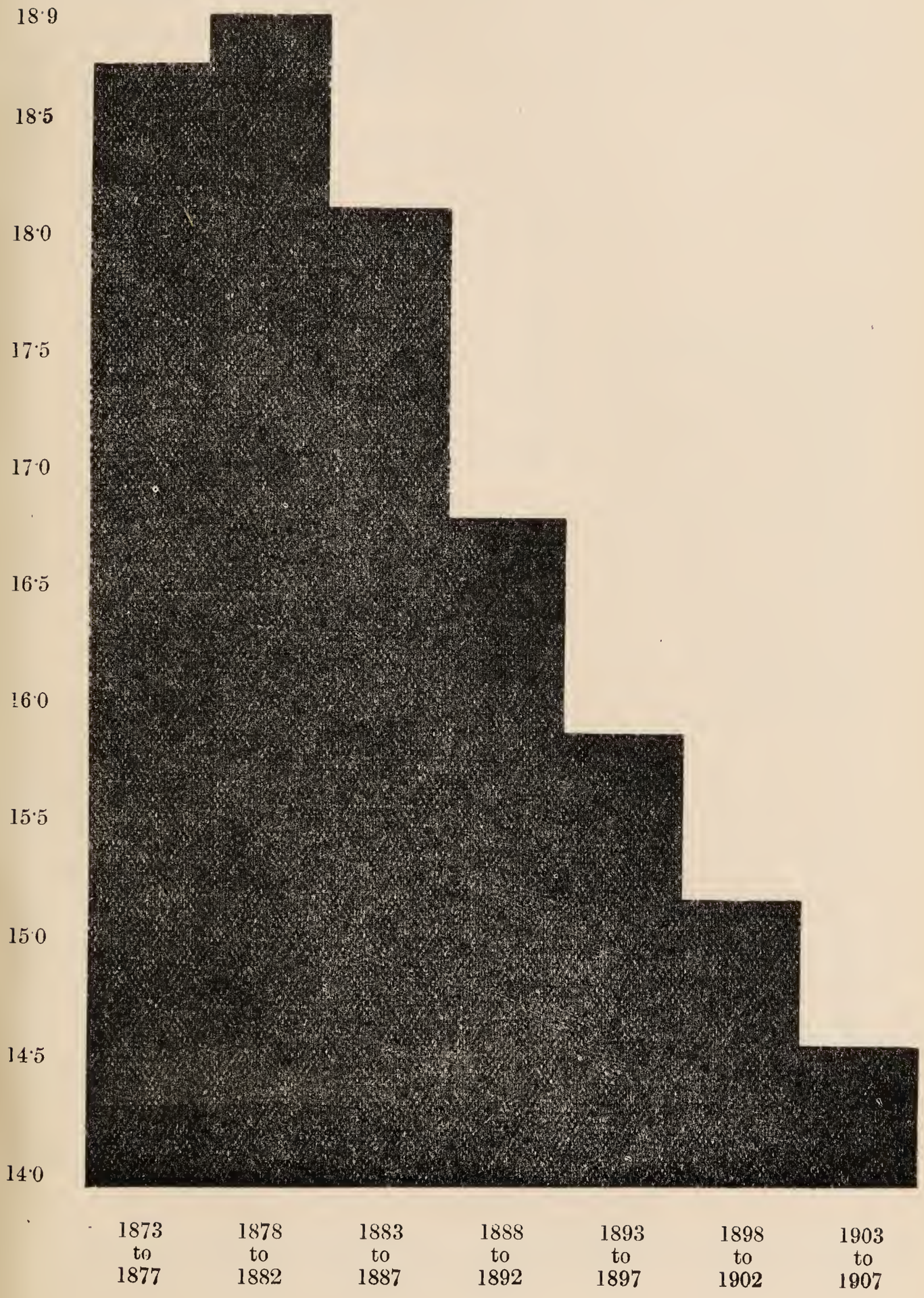
Comparative view of the Principal Causes of Death (drawn to scale) during the year 1909.

No. of Deaths.

The third column indicates the number of deaths from the whole of the tubercular diseases. Consumption of the Lungs is is shown in the fifth column.



Consumption Death-rate in quinquennial periods—1873 to 1907—per 10,000.



ANALYSIS OF THE PRINCIPAL CAUSES OF DEATH.

The following Table shows the number of Deaths, the Death-rate per 1,000 from the principal causes, and the increase or decrease of the Death-rate as compared with the previous year:—

Cause of Death.	Number of Deaths.	Rate per 1000.	Increase or decrease per 1000 of the Population on the year 1908.
Bronchitis	321	2·0	decrease, 0·10 per 1000
*Nervous Diseases	304	1·9	increase, 0·10 „
All Tuberculous Diseases	281	1·7	decrease, 0·10 „
Heart Disease	225	1·4	no change.
Consumption	184	1·1	decrease, 0·10 „
Pneumonia.....	167	1·0	increase, 0·10 „
Measles	166	1·0	increase, 0·90 „
Old Age	144	0·9	decrease, 0·10 „
*Diseases of the Digestive System	127	0·79	decrease, 0·14 „
Cancer.....	117	0·73	decrease, 0·06 „
Broncho-Pneumonia.....	88	0·55	decrease, 0·07 „
Accident.....	75	0·47	decrease, 0·01 „
Diarrhœa	53	0·33	decrease, 0·26 „
Kidney Disease..	52	0·32	decrease, 0·10 „
Whooping Cough	38	0·23	decrease, 0·53 „
Diphtheria.....	32	0·20	increase, 0·03 „
Scarlet Fever.....	16	0·10	increase, 0·07 „
Enteric Fever	14	0·09	decrease, 0·01 „

* Explained In the text.

I have compared the Vital Statistics of the year 1909 with those of the year 1903 also. It is not so easy to make a comparison with the years previous to 1903, as in that year the Local Government Board asked us to alter our method of grouping the various diseases somewhat, and the arrangement of the table of diseases before 1903 is different to that in use since that time.

When the statistics of 1909 are compared with those of 1903, then, I find the following:—

The death-rate from	Bronchitis	decreased	0·10	per 1000 of the	Population.
„ „	*Nervous diseases	„	0·30	„	„
„ „	All tubercular diseases	„	0·60	„	„
„ „	Heart diseases	„	0·20	„	„
„ „	Consumption	„	0·60	„	„

* Explained in the text.

The death-rate from	*Diseases of the Digestive System	decreased	0·47	per	1000 of the	Population.
„	„ Cancer	„	0·05	„	„	
„	„ Broncho-pneumonia	„	0·11	„	„	
„	„ Accident	„	0·08	„	„	
„	„ Diarrhœa	„	0·29	„	„	
„	„ Whooping Cough	„	0·09	„	„	
„	„ Scarlet Fever	„	0·14	„	„	
„	„ Enteric Fever	„	0·05	„	„	
„	„ Measles	increased	0·20	„	„	
„	„ Old Age	„	0·10	„	„	

(*Explained in the text.)

The Death-rate due to Pneumonia, Diphtheria, and diseases of the Kidneys remained the same as in 1903.

With regard to some of the above decreases there is not much to be said, the number of Deaths from Bronchitis and other diseases of the respiratory system depending on climatic conditions; the same may be said of Diarrhœa, which to a great extent is governed by earth and air temperature and the amount of rainfall. It is satisfactory, however, to notice the decrease in Tuberculous Deaths, which have diminished 0·6 per 1,000 of the population since 1903. In other words, the Death-rate from Tuberculous diseases has been diminished by very nearly 25 per cent. since that year, and represents an annual saving of 95 lives. If 95 lives were lost every year from Enteric Fever the fact would cause some concern, but we are so familar with a comparatively high Death-rate from Tuberculous diseases that we do not sufficiently appreciate what it means. This diminished Death-rate from Tuberculous diseases appears to be entirely due to the lower mortality from Consumption, which, it will be observed, has been reduced exactly by 0·6 per 1,000.

* "Diseases of the Digestive System" includes Diseases of the Pharynx, Oesophagus, Stomach, Intestines, and Liver, and also Peritonitis The diminished Death-rate of this group is due to there having been fewer cases of Gastro-Enteritis and Enteritis, which are diarrhœal diseases, the tendency to attack being lessened owing to the wet and cool state of the weather during the autumn quarter of 1909.

* "Nervous Diseases" includes Convulsions, Meningitis (not Tubercular Meningitis), Encephalitis, Apoplexy, Softening of the Brain, Hemiplegia, General Paralysis of the Insane, other forms

of Insanity, Chorea, Cerebral Tumour, Epilepsy, Laryngismus Stridulus, Locomotor Ataxy, Paraplegia, and other ill-defined diseases of the Brain and Nervous System.

It has been thought by some that nervous diseases are increasing. I do not find this to be the case with respect to the Borough of Sunderland, for on very carefully reviewing the statistics for the last seven years I find that while there has been a slight increase of 0·1 per 1,000, as compared with the year 1908, since 1906 there has been a decrease of 0·3 per 1,000. This decrease represents a saving of life in this group of disease of 47 people per annum. It does not appear to be due to any one disease in the group, but there seems to be a diminished rate of mortality in them all. This is particularly encouraging when we take into consideration the strenuous life of the present day. One thing is certain—if people are living more strenuous lives, they need more rest ; and I believe they are taking it, for the custom of taking occasional periods of relaxation has certainly increased of late years, and the practice has been beneficial to the health of those concerned.

INFECTIOUS DISEASES.

TABLE F.

Showing the number of NOTIFICATIONS of Infectious Diseases.

Year.	Smallpox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Typhus Fever.	Continued Fever.	Erysipelas.
1900	2	754	50	301	...	32	62
1901	...	744	76	244	...	22	98
1902	9	814	63	211	...	19	111
1903	32	758	94	121	...	14	125
1904	34	198	74	128	...	9	117
1905	2	184	170	139	...	6	105
1906	...	283	231	134	...	7	106
1907	1	498	206	92	...	6	96
1908	1	325	189	132	...	1	95
1909	...	596	229	96	...	2	135
Average	8	515	138	160	...	12	105

TABLE G.

Table G. gives the DEATHS from Infectious Diseases during the last 10 years. I have already commented on these.

Years.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Typhus Fever.	Continued Fever.	Diarrhœa.
1900	...	87	39	22	30	56	...	...	150
1901	...	64	45	29	104	43	...	2	254
1902	1	82	25	14	48	40	...	...	69
1903	2	121	36	31	48	22	...	...	93
1904	2	59	3	27	64	33	...	...	163
1905	...	102	1	30	58	31	...	...	122
1906	..	15	5	36	56	20	...	...	174
1907	...	104	19	42	42	9	...	...	65
1908	...	23	5	28	120	16	...	...	93
1909	...	**166**	**16**	**32**	**38**	**14**	...	...	**53**

SCARLET FEVER.

In a special report made to the Health Committee on October 29th, 1907, I said:—"The incidence of Scarlet Fever reaches its maximum in the fifth year of life, and I think it is probable that the increase in the number of cases (which was taking place in 1907) is due to the fact that since that time* there has grown up a population at a susceptible age to take this disease. We may, therefore, continue to have more cases during the next few years than we have had in any of the years 1904, 1905, or 1906."

The following Table shows the number of cases of Scarlet Fever notified during the last 10 years, the attack-rate, the fatality per cent. of cases, and the death-rate per 1,000 of the population:—

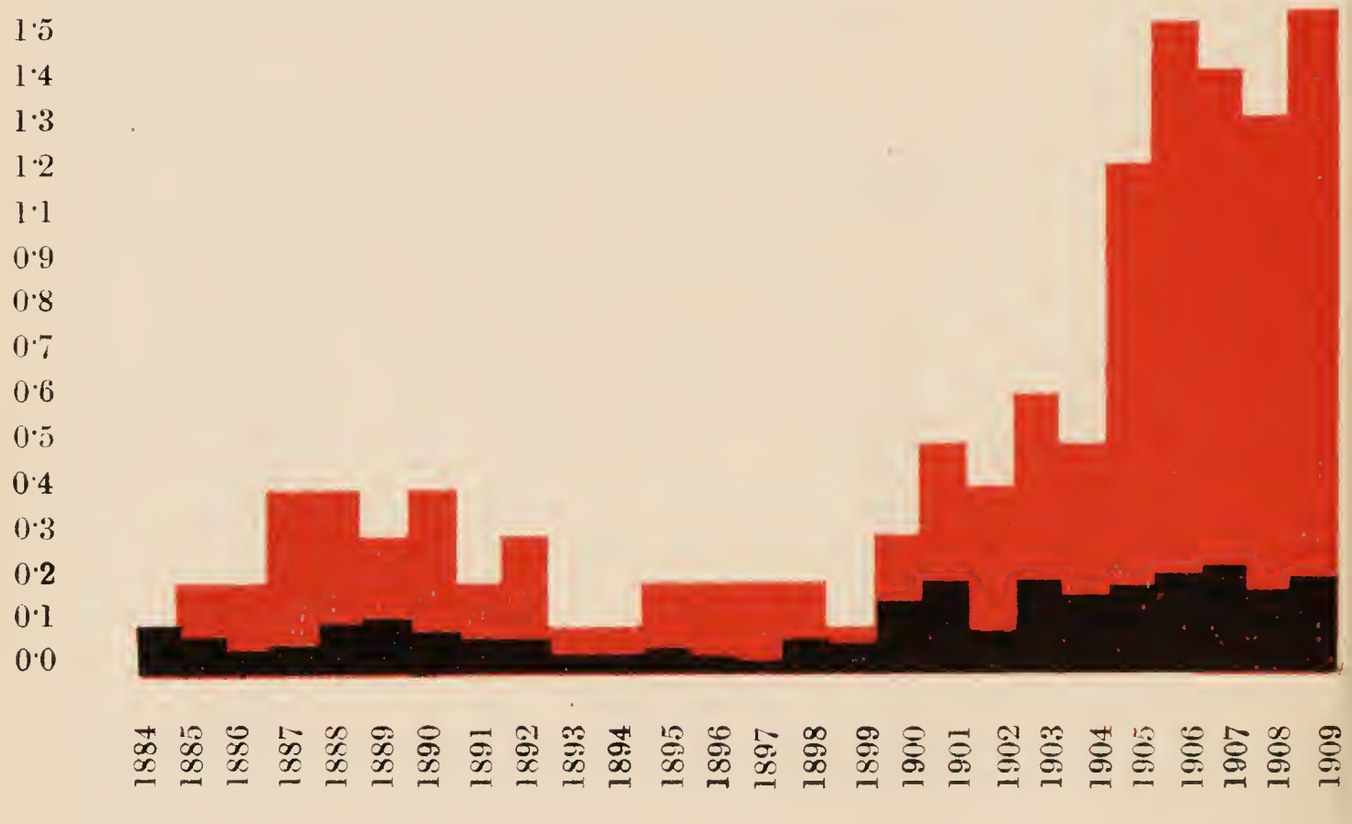
Year.	No. of Cases Notified.	Attack-rate per 1000 of the population.	Fatality per cent. of cases.	Death-rate per 1000 of the popu'ation.
1900	754	5·2	5·2	0·26
1901	744	5·0	6·0	0·30
1902	814	5·5	3·0	0·16
1903	758*	5·0	4·7	0·24
1904	198	1·3	1·5	0·02
1905	184	1·2	0·5	0·006
1906	283	1·8	1·7	0·03
1907	498	3·2	3·8	0·12
1908	325	2·0	1·5	0·03
1909	596	3·6	2·6	0·10

* Milk epidemic.

It will be observed, from the above Table, that the number of cases has increased every year since 1905. I believe that this is mainly owing to the fact that there have been so many unprotected children during the last five years who have been gradually reaching the age of greatest liability to become infected. The character of Scarlet Fever has, fortunately, been mild of late years, but this has no doubt also helped to contribute towards the spread of infection, owing to many mild cases not having been recognised. Several children were found actually "peeling" while attending school, and possibly there were many others whose symptoms escaped recognition for the first day or two during which the disease was in progress. The fatality-rate varies much year by year; the death-rate per 1,000 of the population is low.

* The period of time previous to the year 1904.

Diphtheria Notifications (in Red) per 1,000 (years 1884 to 1909), Deaths per 1,000 (in Black).



DIPHTHERIA.

There were 229 cases notified in 1909, causing 32 deaths and a consequent Death-rate of 14 per cent., which is 0·8 per cent. less than that for the previous year. The Death-rate per 1,000 of the population was 0·20. The Death-rate from this disease in the 76 large towns varies from 0·48 to 0·06 per 1,000 of the population.

The following Table shows the case-mortality for the last 10 years:—

Year.	Case Mortality.
1900	44·0 per cent.
1901	38·1 „
1902	22·2 „
1903	33·0 „
1904	36·4 „
1905	18·0 „
1906	11·2 „
1907	20·4 „
1908	14·8 „
1909	14·0 „

I cannot urge parents too strongly to have medical advice in throat diseases, however slight, for their children. Diphtheria is now often of such a mild character that in many slight throat affections the fact is not recognised that anything serious exists, and professional assistance is not called until it is too late to save the patient.

WHOOPING COUGH.

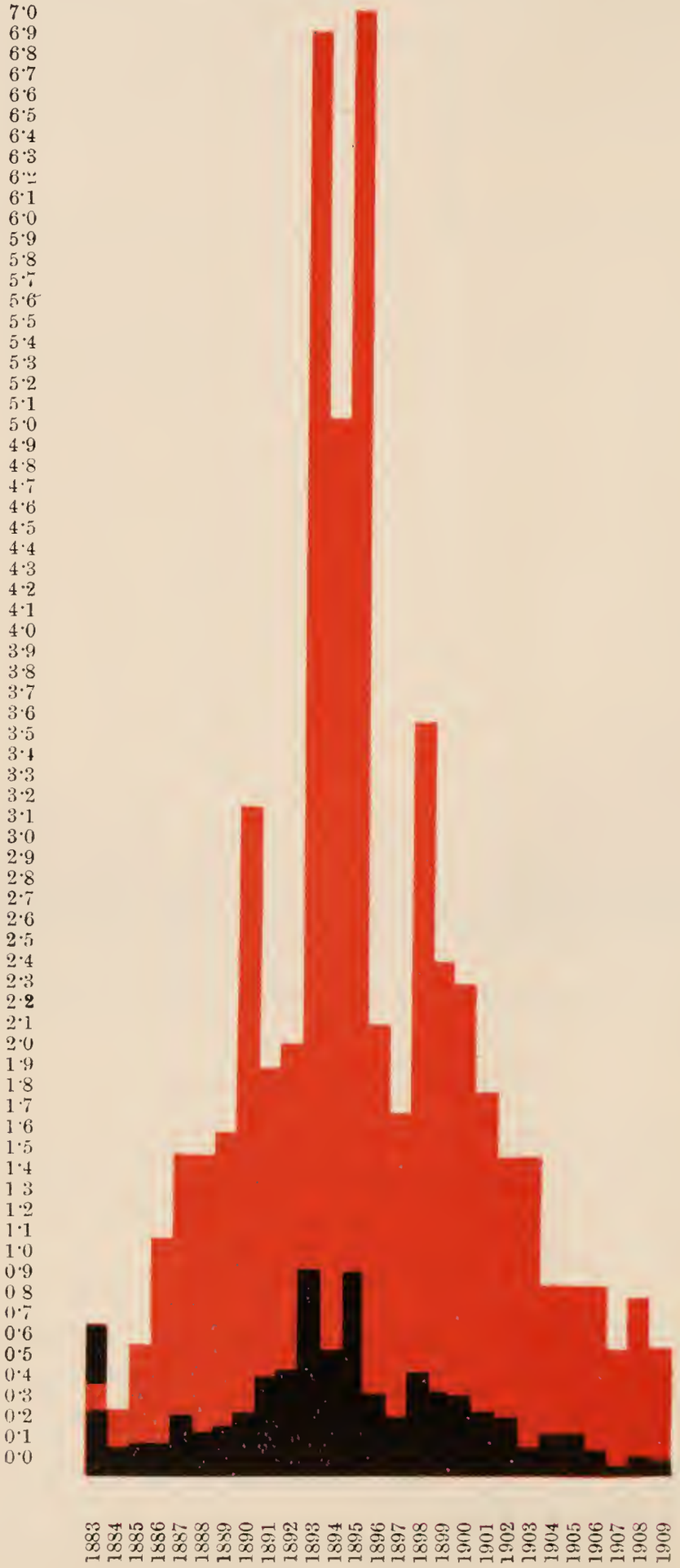
This disease was not nearly so prevalent as in 1908. In 1909 there were only 38 deaths, as compared with 120 in the former year.

TYPHOID FEVER.

In 1909 there were only 96 notifications of this disease, as compared with 132 in the previous year. There were 14 Deaths, or a Death-rate of 0·08 per 1,000 of the population.

The case-mortality was 14·5 per cent., or 2·4 per cent. higher than in the previous year.

Notifications (in red) of Typhoid and Continued Fevers per 1000 of the population—1883 to 1909—together with the Death-rate (in black) per 1000 for the same period.



TYPHOID FEVER IN NEW GREY STREET.

New Grey Street, in Sunderland East District, consists of 38 houses, sub-let into tenements.

The onset of each case occurred on the following dates:—

1. F.A.....aged 4 years.....February 22nd, 1909.
2. J.R. ..... „ 5 „ .....April 14th, 1909.
3. S.G..... „ 4 „ .....April 24th, 1909.
4. H.W. ... „ 5 „ .....May 11th, 1909.
5. E.Y..... „ 11 „ .....May 31st, 1909.
6. C.P..... „ 2 „ .....June 7th, 1909.
7. F.S..... „ 19 „ .....June 7th, 1909.
8. A.L. ... „ 10 „ .....June 9th, 1909.
9. M.L. ... „ 5 „ .....June 16th, 1909.
10. J.C. ..... „ 26 „ .....August 18th, 1909.
11. T.C..... „ 5 „ .....August 20th, 1909.

All the houses in this street have w.c.'s.

There was not a common milk supply; indeed, most of the persons attacked had used different brands of condensed milk.

It is notable that the majority of those attacked were children. Several inspections of the infected houses and of the district were made by me, and also by my Chief Inspector, in order to endeavour to find the cause of so many persons in this short street being attacked by Typhoid Fever, but we were not able to discover anything of an insanitary nature, with the exception of a sewer ventilating shaft, which was at the level of a back street. Around this sewer ventilator, we were informed, the children frequently played, and it is possible (bearing in mind the result of the latest investigations into the bacterial composition of sewer air) that the children became infected in this way.

There was evidence which pointed to the probability that several children became infected from other cases in the same street. Three of the houses had two cases in each house. The sewer ventilator has been carried up an adjacent gable, and now discharges at a safe outlet.

TYPHOID FEVER IN LILBURN STREET.

Six cases of this fever occurred in three houses in the above street, between September 7th and October 21st, 1909.

The houses in which the patients lived adjoined each other and had a common yard. The conditions under which these people lived were exceedingly bad as to personal cleanliness, deposits of faecal matter being found by the Inspector in the yard. It is probable that the other five were infected from the first case.

The following Table shows the number of cases of Typhoid Fever notified in the Borough for the last 10 years, with the corresponding attack-rate, death-rate, and case-fatality:—

Year.	Number of Cases Notified.	Attack-rate per 1000 of the Population.	Death-rate per 1000 of the Population.	Case-fatality per cent.
1900	301	2·08	0·39	18·6
1901	244	1·66	0·29	17·6
1902	211	1·42	0·27	18·9
1903	121	0·81	0·15	18 2
1904	128	0·84	0·21	25·8
1905	139	0·91	0·20	22·3
1906	134	0·87	0·13	14·9
1907	92	0·59	0·06	9·8
1908	132	0·84	0·10	12·1
1909	96	0·60	0·08	14·5

*THE DISINFECTION OF BOOKS BY FORMALIN VAPOUR AND BY DRY HEAT.

A Series of Experiments made by H. RENNEY, M.D., D.Hy., Medical Officer of Health, Sunderland.

So far as I am aware, the results of experiments relating to the disinfection of books which have been exposed to the infection of Scarlet Fever, Diphtheria, or Enteric Fever, have never been published, except, I believe, in the case of books in which the germicide used was steam. Steam, however, is an agent which cannot be used satisfactorily in practice, as moist heat is destructive to the binding of the books. Exposure to the action of formalin vapour has therefore been resorted to, and

* Reprint from Vol. XXXI., No. 2 (1910) of the Journal of the Royal Sanitary Institute.

although scepticism in regard to its action in the disinfection of books has been expressed, the practice has been continued for many years.

It occurred to me that it would be a good thing to put the question to the test by means of bacteriological examination, and I have therefore made a series of 37 experiments in the disinfection of books which I infected with the micro-organisms derived from the scarlatinal throat, from diphtheria, and from enteric fever. In addition to these organisms I made use of pus taken from a suppurating parotitis in a case of enteric fever. At first I did not previously sterilise the book which I used as sample and control, and as these first experiments were made with pus organisms, I am afraid my results were probably vitiated by the omission, the cultures being possibly contaminated with micro-cocci previously in the books. Afterwards, both books were sterilised by dry heat at a temperature ranging from 180°-190° C.* for an hour, before commencing the experiment.

I satisfied myself that books exposed to this temperature contained no living organisms, provided that they were exposed for an hour on two or three successive days. Strips were cut from a page of the sterilised books by means of sterile scissors, and introduced into tubes of nutrient broth with the aid of sterile forceps. The broth cultures were then incubated for 48 hours at 37°-40° C., after which film preparations were made, and examined for the presence of any micro-organisms. If a negative result occurred, sub-cultures on agar were made from the broth cultures. It was often necessary to do this where broth cultures gave negative results, as it frequently happened that the growth in broth was so poor that film preparations made from these cultures were doubtful, but when the broth was sown on agar there was an abundant growth on the latter medium. I soon found out that with a temperature of 180°-190° C. and an exposure of an hour on two or three successive days, the result of incubating the strips in broth and the subsequent sub-cultures on agar, was negative.

---

* I should state that the thermometer in the steriliser which I used was inserted underneath the bottom shelf, and, therefore, registered a much higher temperature than that of the interior of the steriliser. For instance, when the former temperature was 150° C., a maximum registering thermometer placed upon the lower shelf registered only 110° C. With a modern steriliser, having the thermometer placed vertically through an orifice in the roof, the reading should not be higher than 120° C., in order to effect sterilisation of the books without injury.

Method of Work.—Having thus sterilised two books, one of which I shall call the "sample" and the other the "control," I smeared on a previously marked area on a page of both books, several loopfuls of a broth culture of the test organism. In the first few experiments the page of each book was allowed to dry in the air, but owing to possible contamination this was discontinued, and drying was effected by placing the books with the smeared pages open, in the hot-air steriliser, at a temperature of from 20°-30° C., for twenty minutes to half an hour. After drying, the sample was subjected to the action of the germicide for a given period, after which the smeared portion was cut into strips by sterile scissors, and removed to a tube of nutrient broth by means of sterile forceps. The control page was cut up and transferred to a tube of broth in the same manner, and both broth tubes were incubated at 37°-40° C. for forty-eight hours. Cultures were also made from the sample and control books after the preliminary sterilisation, in order to make sure that the leaves were sterile. The broth tubes were examined for turbidity or other evidence of growth, and film preparations were made in every case. Sub-cultures from the broth tubes were made on nutrient agar, and incubated at the above temperatures, when, on obtaining a positive result, film preparations were made, and the organism verified. The germicidal agents used were formalin vapour and dry heat at various degrees.

In the case of books disinfected with formaldehyde, the method was as follows:—

The books were exposed to the action of the disinfectant in a chamber of about 350 cubic feet capacity, and were placed in an upright position on wooden rails 2 in. broad and 3 in. apart, the pages being opened as far as possible. The formaldehyde was generated by an alformant lamp, using 60 Schering's formalin tablets. The floor was sprayed with formaldehyde.

The result of my observations proved:—

1. That it is necessary for the effectual sterilisation of books that they should be exposed to a temperature of 180°-190°* C. in a hot-air steriliser for an hour on two or three successive days, in order to ensure the destruction of micro-organisms which, though apparently not pathogenic, appear to be present in most books.

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* See note, ante.

2. That the presence of these organisms appeared, in some of the experiments, to inhibit the growth of the various test organisms, and, in others, to prevent growth altogether.

3. That the disinfection of books by exposure to formalin vapour for forty-eight hours is impossible, for it was found that the test organisms were killed by such exposure only when the infected pages were purposely placed open so that the vapour had easy access to them ; whilst where the infected pages were loosely closed by means of strips of gummed paper the test organisms on those pages were not killed.

4. That books which have been infected with the above test organisms can be disinfected by exposure to dry heat at a temperature of 150°-165°* C. for an hour, the organisms being killed by this temperature. This was the result when the sample book was the middle one of a pile of three.

5. That a temperature of even 180°-190°* C. for an hour does not injure either the paper or the binding, whether the latter is of leather or cloth. The boards of course are warped at the end of the time, but the application of a heavy weight until the books are cold restores them to their normal condition.

The Examination of the Controls.—The staphylococci and streptococci recovered from the controls were shown by film preparations stained with methylene blue or carbol-fuchsin ; the diphtheria bacilli by Loeffler's methylene blue and by Neisser's method ; the bacillus typhosus by the stains above mentioned, by motility in hanging drop preparations and by agglutination with serum diluted to 1 in 80 from a known case of enteric fever.

MEASLES AND SCHOOL CLOSURE.

The year 1909 was notable for a fairly extensive epidemic of Measles. There were 631 cases notified under the Sunderland Corporation Act of 1907 by School teachers. There were 166 deaths from Measles, this number being more than the number of deaths from Scarlet Fever, Diphtheria, Whooping Cough, Enteric Fever, and Diarrhœa added together. The Death-rate was 1·04 per 1,000 of the population, or 4·5 per 1,000 of the number of children living under the age of ten years. 155 of

* See note, ante.

these deaths occurred in children under the age of five years; this number, calculated in relation to the number of children living under the age of five years, gives a Death-rate of 9·7 per 1,000. This is a very sad record, for very many of these deaths are preventable, but, as I have always maintained, as long as children are sent to School at this early age so long will there be a similar mortality from Measles.

The following is an extract from a memorandum sent to me by the Local Government Board with regard to the circumstances under which the closing of Public Elementary Schools, or the exclusion therefrom of particular children, may be required in order to prevent the spread of disease, dated January, 1908:—

> Measles.—The question of School closing in outbreaks of Measles merits special consideration. School closing probably more frequently takes place on acount of epidemics of Measles than for any other disease, but as the closing is commonly deferred until a large proportion of the children are already absent, it is, in populous districts at least, useless for the purpose of preventing the spread of the disease.
>
> The following facts respecting Measles have to be taken into account:—
>
> "The disease is very infectious, and almost all young children who have not already had it are susceptible to it, the susceptibility being probably greatest in the second to the fifth years of life. Persons, however, rarely contract it a second time, so that, in populous districts where the epidemics commonly recur every two or three years, most of the older children are protected against it by having passed through a previous attack.
>
> The incubation period of the disease from infection to the commencement of illness is usually from 12 to 14 days, and the disease is very infectious during the first three days before the characteristic rash appears.
>
> Hence, if Measles is introduced into a School, the first crop of secondary cases will occur about 12 days after the original case, and in 12 days more there will be a second crop, comprising the majority of the unprotected children. The rapidity of spread depends in a large measure upon the

number of unprotected children in the Class or School; and hence the likelihood of an introduction of measles into a School being followed by an epidemic is in proportion to the length of time which has elapsed since the last previous epidemic. In populous towns Measles is constantly more or less present, and is on frequent occasions introduced into Schools, hence it is not possible to prevent epidemics, but at most only to postpone them. But, since the mortality from Measles chiefly occurs among children under five years of age, in so far as the recurrence of an epidemic can be postponed, the mortality from Measles will be reduced, since a larger number of children will have passed the age at which the risk of death from an attack is greatest.

In view of the failure of School closure, when deferred until a considerable number of children have been attacked, to prevent the spread of Measles a Class closure of short duration after the commencement of a single case of Measles has been suggested. If this be done the Class should be closed on the ninth day after the sickening of the first child, for a period of 5 days only, after which time only those who have sickened should be excluded, with those in the same households who have not had Measles. The infection of Measles is probably conveyed chiefly by the nasal mucus, but is less persistent than that of Smallpox, Scarlet Fever, or Diphtheria, and is not commonly conveyed by healthy persons; hence it is unnecessary to exclude from School the children of infected households if they themselves have had Measles."

Two years before this memorandum was sent out I was acting on the advice given in the last paragraph as to exclusion of children who were themselves suffering from Measles, but allowing children from infected households to attend School, provided they had already passed through an attack previously.

Class closure was tried in several Schools after the receipt of the Board's memorandum, and was ineffectual in some instances in preventing an outbreak, owing probably to the fact that the first case notified had been preceded by anothr case which had not been recognised.

I think Class closure is worth trying, as it does not keep so many children away from School, and during the latter half of

1909 I have recommended it in every case where it appeared advisable. There are some Infants' Departments, however, where the conditions are such that several Classes, and in other cases the whole of the infants, mix together in the playground, that this method is not so potent in preventing the spread of the disease. In these cases it is better to close the whole Department for three weeks. .

I do not believe in waiting until a large proportion of children are attacked. In those Schools where the first case could not be recognised soon enough, and several cases have resulted therefrom, it has latterly been my custom to advise closure of the Infants' Department as soon as these cases were notified, and I believe with beneficial results. The following is a list of Infants' Departments and Classes closed during 1909:—

MEASLES.

SCHOOL CLOSURE DURING 1909.

High Barnes Infants' School ...	January 18th	for 3 weeks.
Redby Infants' School	January 18th	do.
Monkwearmouth C.E. Infants'...	January 20th	do.
Stansfield Street Infants'	January 21st	do.
Thomas Street Infants'	January 22nd	do.
Deptford Terrace Infants'	January 28th	do.
Colliery Infants'	January 29th	do.
King Street Infants'	January 29th.	The children were to have been transferred to the new School at Green Terrace, but in consequence of the prevalence of Measles the opening of this School was postponed for 3 weeks.
Hudson Road Infants'	February 10th	for 3 weeks.
S. Andrew's Infants'	February 12th	do.
Hendon Infants'	February 25th	do.
S. Benet's Infants'	February 26th	do.
S. Joseph's Infants'	March 3rd	do.
S. Patrick's Infants'	March 9th	do.

James William Street Infants'	March 9th	for 3 weeks.
Commercial Road Infants'	March 19th	do.
S. Paul's Infants'	March 23rd	do.
Grey Infants'	March 30th	do.
Chester Road Infants'	April 3rd.	Class closed for 5 days.
Valley Road Infants'	May 5th	for 3 weeks.
S. John's Infants'	May 5th	do.
Moor Infants'	June 5th	do.
Hudson Road Infants'	August 15th	do.
S. Paul's Infants'	October 1st.	Class closed for 5 days.
Hylton Road Infants'	November 15th	do.

After closing for 3 weeks the outbreak was practically stamped out, there being only one or two cases after re-opening in a few of the Schools. Six months after St. Paul's Infants' School was closed there occurred three cases, for which Class closure was adopted; this was successful in preventing any recurrence.

MEMORANDUM ISSUED BY THE BOARD OF EDUCATION, SEPTEMBER, 1909.

This memorandum is a revised and enlarged edition of that which was issued in January, 1908. It contains much new matter and has received the co-operation of the Chief Medical Officer of the Board of Education. It confirms everything which was suggested in the previous one, and in addition recommends the co-ordination of the work of the Medical Officer of Health and of the School Medical Officer and other School Officers. It also recommends certain rules to be followed as to the period of exclusion of children from School who are suffering from infectious diseases other than Measles. These recommendations have been followed, and I am happy to say that the Medical Officer of the Schools and I work in harmony and consult together whenever necessary.

WARNING NOTICES TO PARENTS.

Acting upon one of the suggestions contained in this memorandum, the following notice to parents is issued as soon as Measles appears in a class:—

Warning to Parents.

Measles.

Cases of Measles having occurred in the School attended by your children, it is important that you should watch them so as to detect the slightest symptoms of a "cold" developing during the following three weeks. If there is the slightest symptom of such a "cold" you should keep them from School during this time. Should Measles develop you should at once call in a doctor and notify the Head Teacher of the School.

Measles is a very dangerous disease, and has killed three times as many children in Sunderland as Scarlet Fever during the last ten years. For this reason it is advisable to obtain medical advice in all cases.

Measles is dangerous chiefly because it is considered a slight ailment, and proper care is not taken of the patients. The result is that many children, suffering from Measles, get Bronchitis and Inflammation of the Lungs, and die.

Children are not bound to have Measles, and the older they are when they get it the less likely they are to die from it. It is, therefore, well worth trying to keep them from getting it.

Measles is very infectious, and the first symptoms are coughing, sneezing, and redness of the eyes.

CAUTION.—Every person suffering from Measles is forbidden to enter a cab or any public conveyance, or to go to any public meeting place, under a heavy penalty.

H. RENNEY, M.D., D.Hy., D.P.H.,
Medical Officer of Health.

Health Office,
Sunderland.

SMALL-POX AND VACCINATION.

During the year 1909 there was no case of Small-pox notified in the Borough. I should not be doing my duty, however, if I omitted to point out the danger which faces us in the future from this dreadful disease. The reason why Small-pox has made no great invasion of the community in the past is because vaccination was pretty generally performed. Small-pox is a disease of infantile life, and in former times epidemics began amongst infants and extended to adults. This is the reason why all infants were vaccinated on or before attaining the age of 3 months. The Vaccination Act of 1898 extended this age to 4 months, and, unfortunately, provided for "conscientious" objection certificates being granted on the application of either of the parents to a Court of Summary Jurisdiction. The last Vaccination Act, which came into force on January 1st, 1907, still further facilitated the process of obtaining these "conscientious" objection certificates, as it did away with the necessity of appearing at Court, and allowed the person claiming exemption to make personal application to a Justice of the Peace. The following figures show the result:—

Number of exemption certificates granted in the Borough between the passing of the Act of 1898 to the passing of that of 1907	321
Number of exemption certificates granted in the Borough since the passing of the Vaccination Act of 1907, and up to the end of 1909	1,064
Total.....	1,385

Thus there are, allowing for deaths, over one thousand children in the Borough who are totally unprotected against Small-pox. The number is increasing year by year.

In	1907	there were	175	exemption certificates granted.
„	1908	„	392	„ „
„	1909	„	497	„ „

I am informed that the districts in which the majority of the exemption certificates are granted are the poorest in the town, which, of course, are the localities in which Small-pox is most likely to spread should it be introduced.

REPORT ON CORPORATION PATIENTS SENT TO THE STANHOPE SANATORIUM.

Since June, 1901, 81 patients have been treated in the Stanhope Sanatorium as Corporation patients. Of these 46 are dead, 11 are well, 8 are fairly well, 1 is ill, 11 cannot be traced, 4 were in the Sanatorium at the end of the year.

Of those who died the average duration of life after discharge from the Sanatorium was 2 years 2 months.

Of the 18 who are still under observation two have been out $8\frac{3}{4}$ years, one has been out $7\frac{1}{2}$ years, one $6\frac{1}{4}$ years, one 5 years, one $4\frac{3}{4}$ years, one 4 years, one $3\frac{3}{4}$ years, one $3\frac{1}{2}$ years, one $3\frac{1}{4}$ years, one $2\frac{1}{4}$ years, one 2 years, three have been out 1 year, two $\frac{1}{2}$ year, and one has been out $\frac{1}{4}$ year.

SPITTING IN THE STREETS.

The Health Committee have had placed a number of iron tablets on the lamp-posts and tram-poles. These tablets bear the words "Please do not spit in the street," in black letters on a white enamel background. It is hoped that by their silent appeal these tablets may be the means of lessening, to some extent, this dangerous and disgusting habit.

"One hundred sputa picked up from the streets of Birmingham by a labourer in the employment of the health department were examined by Dr. Higgins, and 7 per cent. of the spits examined showed the presence of the bacillus. The instruction given to the collector was to collect yellow-coloured spits and to use only one sterilized outfit for each sputum, so that there might be no contamination. In Liverpool 5 per cent. of the sputa thus examined were found by Dr. Annett to contain virulent tubercle bacilli. The tubercle bacilli are found to be alive in the majority of instances, and capable of resisting the influences of desiccation and exposure for varying periods up to several months. The sputa in the streets are spread by the boots of pedestrians and taken into houses and offices; the dresses of many women become contaminated, and it is probable that infection is occasionally carried in this way if skirts are brushed in the bedroom."—"British Medical Journal," November 27, 1909.

BOROUGH SANATORIUM REPORT.

The total number of persons admitted was 379, of whom 23 died, giving a Death-rate of ~~5·3~~ 6·1 per cent.

Of the 379 admitted, 302 were cases of Scarlet Fever, of which 8 died, causing a Death-rate of 2·6 per cent.

74 cases of Enteric and Continued Fevers were admitted. On further observation 17 of these were found not to be suffering from these diseases.

The diagnoses were as follows:—

Diseases.	Number of Cases.	Result.		
		Cured.	Died.	Under treatment at end of 1909.
Pleurisy	1	1	...	...
Pneumonia	5	4	...	1
Febricula	2	2	...	...
Gastro Enteritis	3	3	...	...
Intermittent Fever.....	2	2	...	...
Cirrhosis of Liver	1	...	1	...
Chronic Constipation ...	1	1	...	...
Septicœmia	1	...	...	1
Influenza	1	1	...	...
Totals	17	14	1	2

Deducting the above 17 cases, there were 57 cases of Enteric Fever, of which 12 died, representing a Death-rate of 21·0 per cent.

One patient who was notified as suffering from Scarlet Fever was found to be suffering from Phthisis, of which she died; another Scarlet Fever patient had become infected with Measles before admission; the disease developed in the Sanatorium and ended fatally.

A case of Scarlet Fever with concurrent Typhoid Fever was admitted, and recovered.

Two cases of Scarlet Fever were found to have Chicken-pox also; both recovered.

PORT CASES.

(Included in the above total.)

1 case notified as Typhoid, 2 cases of Diphtheria, and I case of Measles were admitted to the Sanatorium from vessels in the Port.

Table I. shows the number of cases of Infectious Diseases notified during the years 1908 and 1909, together with the number admitted to the Sanatorium, and the percentage of the total cases notified so admitted.

TABLE I.

Showing the number of Cases Notified and the number Admitted to the Sanatorium during 1908-9.

Disease.	1908.			1909.		
	Cases Notified.	Admitted to Hospital.		Cases Notified.	Admitted to Hospital.	
		Number.	Percentage of Total Cases Notified.		Number.	Percentage of Total Cases Notified.
Smallpox	1	1	100	...	...	...
Enteric Fever	135	117	86·6	96	74	77·1
Typhus Fever	...	...	...	...	...	...
Continued Fever.....	1	...	..	2	2	100·0
Scarlet Fever	325	217	67·0	596	302	50·6
Diphtheria and Memb. Croup	189	...	...	229	...	...
Totals	651	335	51·4	923	378	40·9

The following figures show the Death-rate in the Sanatorium for the past ten years:—

1900—Patients admitted, 436, of whom 42 died, or 9·6 per cent.
1901— „ „ 327, „ 35 „ „ 10·7 „
1902— „ „ 350, „ 30 „ „ 8·6 „
1903— „ „ 313, „ 27 „ „ 8·6 „
1904— „ „ 219, „ 22 „ „ 10·0 „
1905— „ „ 182, „ 13 „ „ 7·1 „
1906— „ „ 258, „ 22 „ „ 8·5 „
1907— „ „ 373, „ 27 „ „ 7·0 „
1908— „ „ 336, „ 15 „ „ 4·5 „
1909— „ „ 379, „ 24 „ „ 6·3 „

TABLE J.

Showing the number of cases of Infectious Diseases Admitted to the Sanatorium for the last 10 years.

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Smallpox	2	...	10	32	34	2	...	1	1	...
Measles	...	...	...	...	...	...	...	1	...	1
Scarlet Fever.....	226	183	210	193	94	87	152	297	217	302
Diphtheria	...	...	...	...	...	...	...	...	...	2
Typhus Fever.....	...	...	...	...	...	...	...	...	...	...
Enteric and Continued Fever....	208	144	130	88	92	95	106	73	117	74
Suspected Epidemic— Cerebro-Spinal Meningitis ..	...	...	...	...	...	...	...	1	...	...
Erysipelas	...	...	...	...	...	...	...	...	1	...
Totals.....	436	327	350	313	219	184	258	373	336	379

I have once more to acknowledge my indebtedness to Miss MacRae, the Matron of the Borough Sanatorium, who, as heretofore, has so admirably carried out the duties of her office.

My thanks are due also to the Nursing Staff for their assistance in the Wards

BACTERIOLOGICAL REPORT.

The following is a Report of the Bacteriological examinations made by Professor Hutchens during the year 1909:—

DRINKING WATER.

CLASS.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.	Percentages.	
						1909.	1908.
I. Containing no Bacillus Coli in 100 c.c.	14	17	23	27	81	54·7	56·2
II. B. Coli present in 100 c.c.	9	11	23	13	56	37·8	29·4
III. B. Coli present in 10 c.c.	1	2	3	4	10	6·8	10·7
IV. B. Coli present in 1 c.c...	...	...	1	...	1	0·7	3·6
Totals	24	30	50	44	148		

Professor Hutchens, in his report on the water, for the quarter ending December, 1909, said:—"I should like to see a much higher percentage of the samples fall into Class I. My views on this subject you know well." Professor Hutchens gave his opinion as to the bacteriological condition of the drinking water examined by him in a report dated June, 1907, which is as follows:—"The water supplied to the Borough is a 'deep well' water, and should be of considerable purity as regards microscopic pollution. Applying this to the results obtained and given above (in his report of that date), a 'deep well' water should not, in order to be regarded as a safe water for drinking purposes, contain Bacillus Coli in 100 c.c. Of the 16 samples examined during the three months under review, therefore, 10 may be classed as good, 4 as unsatisfactory, and 2 as distinctly bad. The results as a whole can consequently be hardly considered as satisfactory."

It will be seen from the above Table that the proportion of "good" samples is 1·5 per cent. less than in 1908, and that 45 per cent. of the samples taken during 1909 fall into Class II., III., or IV. This can only be regarded, by the unprejudiced mind, as unsatisfactory, when it is remembered that water drawn from such deep wells should not contain any Bacillus Coli in 100 c.c.

MILK.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.
B. Coli in 1 c.c.	7	4	1	...	12
„ 0·1 c.c.	10	2	...	1	13
„ 0.01 c.c.	5	1	...	...	6
„ 0·001 c.c.	2	...	1	...	3
„ 0·0001 c.c.	...	...	...	...	...
Absence of B. Coli	...	1	...	...	1
Totals	24	8	2	1	35

The results of bacteriological examination, in previous years, of milk from farms both outside and within the Borough have shown this common article of diet to be very much poluted, and there is no doubt that this pollution consists of particles of dried manure, so small as to readily pass through the strainer. Now that the cause has been absolutely proved, it is not necessary to take so many samples, but to direct out efforts towards a more cleanly condition of byres, the hands of the milkers, and the cows. There is still room for much improvement in the conditions under which milk is produced for sale.

CERTIFIED FARMS.

The Sanitary Authority continue to grant certificates to farmers who comply with certain conditions as to air-space and general cleanliness of byres, and who keep only cows which have been tested with Tuberculin and found satisfactory. One of these farmers has adopted the practice of clipping the hind quarters and tail of his cows, and of grooming them daily, so as to lessen the amount of undesirable pollution in the milk. It is interesting to note that before this practice was adopted samples of milk from this farm showed Bacillus Coli to the extent of 10,000 in 1 c.c. (about 17 drops). In a sample taken after clipping and grooming there were only 10 Bacilli belonging to the Colon group in the same quantity of milk. There is no doubt that very much may be accomplished by the energetic up-to-date dairyman towards securing comparatively clean milk.

EXAMINATION OF MILK FOR TUBERCLE BACILLI.

	1st Quarter.	2nd Quarter	3rd Quarter.	4th Quarter.	Totals.
Positive (T. Bacilli present)	2	1	1	2	6
Negative (T. Bacilli not found) ...	27	11	15	22	75
Totals.....	29	12	16	24	81

Thus Tubercle Bacilli (germs of Consumption) were found in 7·4 per cent. of the total number of samples examined during the year. In the previous year 7 per cent. of the total number of samples were Tuberculous.

ACTION TAKEN UNDER SECTION 33 OF THE SUNDERLAND CORPORATION ACT, 1907, PART V., MILK SUPPLY (TUBERCULOSIS).

There were seven dairymen dealt with under the above Act during the year 1909, one of the samples having been taken at the end of 1908 and the order being made in 1909.

In four cases an order was made by the Corporation requiring the dairyman not to send any milk from Tuberculous cows into the Borough.

In three of these cases the order was subsequently withdrawn on the dairyman getting rid of the Tuberculous cows. In the fourth case the order has not been withdrawn, as the conditions have not been complied with. Of three dairymen whose dairies were within the Borough, two stopped the supply of Tuberculous milk, and one who was about to retire from business now did so.

EXAMINATION OF SWABS FOR DIPHTHERIA.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.
Diphtheria Bacilli found	43	75	38	85	241
Diphtheria Bacilli not found	93	143	120	148	504
Totals.....	136	218	158	233	745

The swabs are taken by medical practitioners from suspected cases of Diphtheria, and from the throats of persons who have been in contact with persons suffering from this disease, who may be "carriers."

A swab is also taken from the throat of every case of Scarlet Fever admitted to the Borough Sanatorium to exclude "carriers" of Diphtheria from the Scarlet Wards. The latter practice was commenced several years ago when the Scarlet Wards were invaded by Diphtheria owing to a patient who was suffering from Scarlet Fever and who also was a "carrier" of Diphtheria being admitted. Fifty "carrier" cases were thus discovered, and isolated, during the year.

The result is that there has not been a single case of Diphtheria in the Scarlet Wards since.

EXAMINATION OF BLOOD FROM PATIENTS SUSPECTED TO BE SUFFERING FROM ENTERIC FEVER (GRÜBER-WIDAL REACTION).

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.
Positive	14	18	16	26	74
Negative	6	8	18	24	56
Totals	20	26	34	50	130

I have found this test a very useful aid to the diagnosis of Enteric Fever. During the last four years it has been used for every patient admitted to the Enteric Wards, and I have found that in 95 per cent. of the cases diagnosed as Enteric the Grüber-Widal Reaction was positive.

EXAMINATION OF SPUTUM IN SUSPECTED CONSUMPTION.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.
Tubercle Bacilli present	14	25	20	17	76
Tubercle Bacilli not found	39	41	33	27	140
Totals	53	66	53	44	216

MISCELLANEOUS EXAMINATIONS.

One sample of sausage was examined for organisms capable of producing disease—none were found. A film was examined for the Gonococcus, with a negative result. A sample of blood was examined for the presence of the malaria parasite, also with a negative result.

DAIRIES, COWSHEDS, AND MILKSHOPS ORDER OF 1885.

NEW REGULATIONS.

The regulations relating to Dairies, Cowsheds, and Milkshops, which were compiled by me, as stated in my Annual Report for 1908, have now been approved by the Local Government Board, and were adopted by the Council of the County Borough of Sunderland on November 10th, 1909. They came into force on January 1st, 1910.

The old regulations were made in the year 1893, and judged according to modern sanitary requirements were quite inadequate.

The new regulations set out more fully the various provisions as to ventilation of Cowsheds, cleansing and drainage of these structures, water supply, the cleansing of milk vessels, and also the precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination.

Special provision is also made by the Regulations to ensure, as far as possible, that milk sold in shops is protected from the entrance of dust and other foreign matter.

Another important clause is that no cowkeeper shall allow a cow to be milked unless the hands of the person milking such cow have been immediately prior to such milking thoroughly cleansed and thereafter kept free from contamination until the act of milking has been completed.

The pouring of milk from one vessel to another at any Railway Station is forbidden, and (except during the actual sale of milk to a customer) in any public place, street, or thoroughfare.

The practice of pouring milk from one tin to another at Railway Stations is one which has been common in the Borough, and is objectionable on account of the contamination which such milk receives by reason of dust and other foreign matter. It is a common practice also to pour milk from one vessel to another at any convenient place in the public street, and as this also is liable to cause contamination the regulation has been passed in order to prevent such undesirable pollution in future.

INFANTILE MORTALITY.

The following Table indicates the Infantile Mortality figure in Sunderland contrasted with that of England and Wales from 1885-1909:—

		Infantile Mortality in Sunderland.	Infantile Mortality in England and Wales.
1885		156	138
1886		152	149
1887		152	145
1888		135	136
1889		182	144
1890		175	151
1891		178	149
1892		159	148
1893		189	159
1894		168	137
1895		191	161
1896		161	148
1897		168	156
1898		202	160
1899		175	163
1900		169	154
1901		179	151
1902		153	133
1903		159	132
1904		165	145
1905		143	126
1906		140	132
1907		130	115
1908		144	121
1909		136	118
1885 / 1889	Average	156	142
1890 / 1894	"	174	149
1895 / 1899	"	179	158
1900 / 1904	"	165	143
1905 / 1909	"	139	121

INFANTILE MORTALITY.

In the Table on page 41 it will be seen that the infantile mortality figure for 1909 has fallen to 136, being 8 less than in the previous year, and that the average for the last five years has fallen from 165 to 139, a difference of 26. This is satisfactory, and the more so that the rate, both for the year and the average rate for the last five years, is declining in a greater proportion than the same rates for the whole of England.

On reference to Table V., page 70, it will be observed that 650 children died under the age of one year.

Of the 650, :—

230, or 35·3 per cent. died within one month of birth.

147, or 22·6 per cent. died within one week of birth.

Making an analysis of this regretable mortality I find that out of the 230 infants who died within one month of birth the principal causes were as follows:—

Premature Birth	88
Atrophy, Debility, and Marasmus	67
Congenital Defects	21
Convulsions	16
Bronchitis	13
Suffocation (overlaying)	5
Diarrhœal Diseases	3
Syphilis	2
	215

The most of these 215 deaths, I fear, were due to preventible causes. I have found, as the result of an exhaustive enquiry, that the majority of premature births are due to antenatal causes, such as alcoholic intemperance on the part of one or both parents, working when the expectant mother was unfit, or to accidents to the mother. Marriage at too early an age, and poverty of the parents are also potent factors in producing premature birth, putting aside various pathological conditions. To the two last

causes are due very often the deaths from Atrophy, Debility, and Marasmus. Some of the congenital defects are likewise preventible. Convulsions, I am persuaded, in spite of the good advice given by the Health Visitors, are due too often to improper feeding, though ascribed, as a rule, to "teething."

Bronchitis in these young infants is frequently induced by exposure to inclement weather, to vitiated air in places of amusement in the evening and consequent chills suffered while being carried home, also to an excess of clothing on the chest, or to too little clothing generally.

Suffocation should never occur, for the infant should sleep in its cradle from birth.

The following is an analysis of the causes of death of the total number (650) of the children who died under one year of age:—

Atrophy, Debility, and Marasmus	163
Bronchitis	96
Premature Birth	95
Diarrhœal Diseases	56
Convulsions	49
Pneumonia	43
Measles	30
Congenital Defects	27
Tuberculous Diseases	14
Suffocation (overlaying)	13
Whooping Cough	11
Meningitis (not Tuberculous)	11
Injury at Birth	6
Syphilis	4
Diphtheria	3
Rickets	2
Erysipelas	2
Laryngitis	1
Want of Breast Milk	1
Other Causes	23
Total.....	650

Set out in this way, the above Table shows the principal causes of death at a glance, and that there is the same preponderance of preventible causes in the 650 deaths as I have mentioned in the 230 deaths which occurred under the age of one month.

Causes of Infantile Mortality during 1909 compared with those of 1908:—

Deaths from	Bronchitis	*decreased*	2·4	per 1000 births.
„	Diarrhœal Diseases ...	„	10·6	„
„	Tuberculosis ...	„	1·5	„
„	Whooping Cough ...	„	9·8	„
„	Meningitis (not Tuberculous)	„	0·4	„
„	Injury at Birth ...	„	1·3	„
„	Syphilis	„	0·3	„
Deaths from	Atrophy, Debility and Marasmus	*increased*	5·7	per 1000 births.
„	Premature Birth	„	0·4	„
„	Convulsions	„	1·0	„
„	Measles	„	5·7	„
„	Congenital Defects ...	„	1·6	„
„	Diphtheria	„	0·62	„

The Infantile Death-rate of Pneumonia remained the same as in 1908, viz., 9 per 1,000 Births.

The comparatively mild character of the weather during the first quarter of 1909 resulted in there being a decrease in infantile deaths due to Bronchitis; while the cool and wet autumn greatly lessened the number of deaths from Diarrhœal diseases. We were fortunate in these two factors acting in the same year, for on referring to the statistics for a number of years I have found that very often when the weather of the spring quarter was favourable to a low Death-rate from respiratory diseases, that of the autumn quarter too often was hot and dry, with a resulting high Death-rate from Diarrhœal diseases.

It is pleasing to note that there was some decrease in the Death-rate from Tuberculosis in children under one year. It will be observed that there was an increase in the Death-rate from Atrophy, Debility, and Marasmus. These conditions are due to several causes, poverty being one of them, and I have no doubt that this increase was partially due to the great distress and inability of suckling mothers to procure sufficient nourishment for themselves, to the detriment of their offspring. Malnutrition of the mother tends to favour several of the other causes of death, which are shown to have increased slightly during 1909, such as Premature Birth, Convulsions, and Congenital Defects.

The following is a summary of the work done by the Health Visitors during the year:—

Visits to Premises where Children suffered from Infectious Disease	1,396
Cases of Puerperal Fever visited	4
Number of Visits to Consumptive Cases	81
Number of Re-visits to Consumptive Cases	231
Visits to Infants immediately after Birth	4,032
Number of Re-visits to Infants	9,645
Visits to houses where Infants had died under one year	499
Visits to Midwives	276
Total	16,164

THE MIDWIVES ACT, 1902.

A midwife was reported to the Central Midwives Board, in July, 1909, for not obeying the rule as to dress, bag, and appliances. She was struck off the Roll.

Another midwife was reported to the Board, in November, for alleged neglect. The consideration of this case was still pending at the end of the year.

At the beginning of the year 34 midwives sent in notice of intention to practise. Four of these have had hospital training and are certified by examination.

The majority of the midwives are uneducated, but more care is taken than formerly in recording information required in the register of cases. In the case of those quite illiterate this is done by a member of the family.

Several are in poor circumstances and doing but little midwifery; two are doing chiefly monthly nursing.

The Health Visitors, who call frequently to inspect their registers, bags, and appliances, find that greater care is taken in keeping them up to the required standard.

Dresses and bodices of washable material are worn by the women, most of whom are clean and tidy in person and surroundings, and, as far as can be ascertained, their mode of practice is fairly satisfactory.

The rule for sending for medical help has been observed more carefully. The following notifications of sending for medical help were received:—

Weakness of Child	2
Inflammation of the Eyes	3
Rise of Temperature	2
Stillbirths	14
Premature Birth	1
Footling Presentation	1
Transverse Presentation	1
Difficult and Prolonged Labour	11
Ruptured Perinæum	1
Unusual Symptoms	1

SUNDERLAND CORPORATION ACT, 1907, NOTIFICATION OF BIRTHS.

Under Section 45 of the above Act proceedings were taken against an uncertified midwife for not notifying the birth of a child born June 10th, 1909. The child suffered from Opthalmia, which, had the birth been duly notified, might have received prompt attention; as it was, some time elapsed before it received treatment. Result of proceedings:—Dismissed with a caution.

A woman was also summoned before the Justices, being charged with not notifying the birth of a child, at whose birth she had acted as a midwife. This case also was dismissed with a caution.

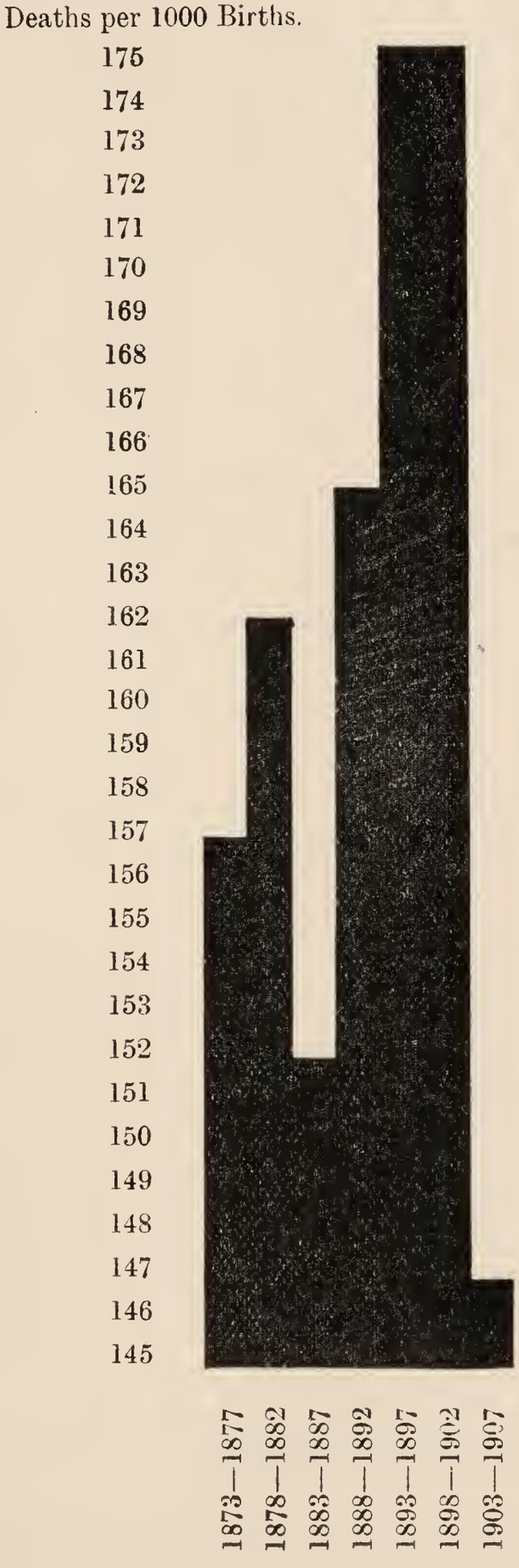
The Births which took place during the year amounted to 4,567; of these 4,494 were notified to me under the provisions of the above Act, the number so notified being at the rate of 98·4 per cent.

In the East district 1,710 births occurred, of which 1,683 were notified = 98·4 per cent.

In the West district 1,748 births occurred, of which 1,729 were notified = 98·9 per cent.

In the North district 1,109 births occurred, of which 1,082 were notified = 97·6 per cent.

Infantile Death-rate in quinquennial periods—1873 to 1907—per 1000 Births.



NEW HOUSES.

The following is the Report of the work performed by the Inspector of Drains and Sanitary Fittings in New Houses during the year:—

Number of visits made	3,798
Number of Tests applied to Drains and Sanitary Fittings—	
Water Tests	1,723
Smoke Tests	116
Total.....	1,839
Number of Certificates sent to the Borough Engineer	116
Number of cases where it was found necessary to order concrete foundations for drains	775

Approximate length of drains laid...17,090 feet.

THE HARRISON BUILDINGS.

The Sixth Annual Report of the Harrison Buildings, made by the Superintendent, Mr. Joseph D. Ward.

On December 31st, 1909, there were 38 houses occupied, viz., 18 consisting of three rooms, and 20 consisting of two rooms each. Forty-six houses were unoccupied, viz., 18 of three rooms, and 28 of two rooms each. Out of a total of 84 houses 46 are vacant, as against 45 at the end of 1908.

The rent collected during the year amounts to £403 5s. 0d., compared with £726 17s. 5d. in 1908, a decrease of £323 12s. 5d., making the total amount of rent collected since the houses were opened to be £4,154 5s. 5d.

The arrears of rent amounted to £20 6s. 10d., as against £33 9s. 1d. for last year, a decrease of £13 2s. 3d.

The total arrears of rent since the Buildings were opened amounts to £68 10s. 4d., or not quite 4d. for every sovereign collected.

The following Table shows the amount of rent collected for each year, and the arrears of rent :—

Year.	Rent Collected.	Arrears.
	£ s. d.	£ s. d.
*1903	65 0 11	...
1904	492 6 7	0 17 6
1905	709 4 3	3 9 3
1906	889 15 0	1 13 0
1907	867 16 3	8 14 8
1908	726 17 5	33 9 1
1909	403 5 0	20 6 10
Totals...	4154 5 5	68 10 4

* The buildings were opened in September, 1903.

Of the 38 tenants at present occupying houses :—

6 have been in for 6 years.
5 „ „ 5 „
6 „ „ 4 „
4 „ „ 2 „
3 „ „ 1 year.

And 14 have been tenants for a period under one year.

There have been 11 Births and 3 Deaths during 1909.

The causes of death were :—

Diphtheria ..... 1 case.
Pneumonia ..... 1 „
Meningitis ..... 1 „

There was only one case of infectious disease, viz., Diphtheria, which proved fatal. The patient was a girl, aged 4 years.

The population of the houses at the end of 1909 numbered 182 persons, an average of 1·9 person per occupied room.

The following Table shows the population, number of Births, Deaths, and cases of infectious disease occurring since the opening of the Buildings:—

Year.	Population.	Births.	Deaths.	Infectious Diseases.
1904	234	10	4	Nil.
1905	305	15	4	Nil.
1906	335	17	7	12
1907	286	20	4	4
1908	190	14	2	Nil.
1909	182	11	3	1
Totals...	1532	87	24	17

The Medical Officer of Health wishes to add that the Superintendent has performed his duties in his usual conscientious and efficient manner.

SUMMARY OF METEOROLOGICAL OBSERVATIONS for the year 1909.

Month.	Barometer (corrected to sea level and 32° F.)	Mean Temperature.	Mean of Maximum Temperature.	Mean of Minimum Temperature.	Mean Temperature 1 ft. Earth Thermometer.	Mean Temperature 4 ft. Earth Thermometer.	Mean Humidity.	Number of days on which rain fell.	Total Rainfall.	Direction of Wind. Number of Days.							
										N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January	30·030	38·7	43·6	33·8	38·2	42·5	80·2	16	0·62	...	...	1	...	2	10	11	7
February	30·123	38·6	43·6	33·6	36·6	40·5	80·0	10	1·32	3	3	2	...	5	5	5	5
March	29·524	37·9	42·4	33·4	37·2	39·9	84·8	22	4·09	3	2	6	5	1	2	2	10
April	29·913	46·6	54·1	39·1	43·1	42·7	70·1	16	2·53	...	2	3	3	3	5	10	4
May	30·091	49·8	56·6	43·0	47·3	46·2	70·4	9	1·72	4	3	6	3	2	2	5	6
June	29·987	51·2	56·4	46·1	52·4	50·5	76·2	10	2·33	5	11	8	1	1	1	2	1
July	29·807	57·9	64·5	51·4	55·5	53·2	69·7	15	2·54	4	2	...	2	...	2	17	4
August	29·935	59·3	65·3	53·3	57·5	55·7	73·2	15	2·73	1	5	...	1	2	4	13	5
September ...	30·044	50·6	55·0	46·2	53·0	54·3	83·0	15	1·78	8	6	1	2	1	...	5	7
October	29·680	50·5	56·2	44·9	50·2	52·3	82·2	17	2·41	1	...	2	1	9	4	11	3
November.....	29·985	39·8	46·4	33·3	41·9	47·6	81·1	7	1·17	1	...	1	...	1	5	12	10
December ...	29·649	38·9	43·1	34·7	38·8	43·3	83·1	17	3·72	2	...	5	2	..	5	12	5
Totals	...	...	..	...	...	...	...	169	26·96	32	34	35	20	27	45	105	67
Averages...	29·981	46·6	52·3	41·1	46·0	47·4	77·8	...	...	...	...	...	...	...	...	...	...

The average rainfall for the last 35 years is 25·66 ins.

Annual Report of the Medical Officer of Health for the Year 1909 for the County Borough of Sunderland on the administration of the Factory and Workshop Act, 1901, in connection with Factories, Workshops, Workplaces, and Homework.

1.—Inspection of Factories, Workshops, and Workplaces.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of Inspections (2)	Written Notices. (3)	Prosecutions. (4)
Factories (Including Factory Laundries)	867	53	...
Workshops (Including Workshop Laundries)	2873	90	...
Workplaces (Other than Outworkers' premises included in Part 3 of this Report)	1426	64	...
Total	5166	207	...

2—Defects found in Factories, Workshops, & Workplaces.

Particulars. (1)	Number of Defects. Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Prosecutions. (5)
*Nuisances under the Public Health Acts :—**				
Want of cleanliness	114	114	...	...
Want of ventilation	4	4	...	...
Overcrowding	2	2	...	...
Want of drainage of floors	...	...	..	...
Other nuisances	18	18	...	...
† Sanitary Accommodation. insufficient	9	9	...	..
† Sanitary Accommodation. unsuitable or defective	43	43	...	...
† Sanitary Accommodation. not separate for sexes	10	10	...	...
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouses (s. 101)	...	...	...	...
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	23	23	...	...
Other offences :— (Excluding offences relating to outwork which are included in Part 3 of this Report).	...	...	...	...
Total	223	223	...	...

* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

† Section 22 of the Public Health Acts Amendment Act, 1890, has been adopted by the District Council. Conveniences provided on the basis recommended in the Sanitary Accommodation Order of February 4th, 1903.

Nature of Work. *	Outworkers' Lists, Section 107.												Outwork in Unwholesome Premises, Section 108.			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Numbers of Addresses of Outworkers received from other Councils. ++	Numbers of Addresses of Outworkers forwarded to other Councils. ++	Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		Number of Inspections of Outworkers' Premises.						
	Twice in the year.			Once in the year.						Failing to keep or permit inspection of lists.	Failing to send lists.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110.)	Prosecutions. (Sections 109. 110.
	Lists. †	Outworkers† Contract'rs	Outworkers† Workmen.	Lists.	Outworkers Contract'rs	Outworkers Workmen.												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Wearing Apparel :—																		
(1) Making, etc	88	78	147	2	2	...	..	1	90	...	...	321	...	...	..	...	...	...
(2) Cleaning and Washing	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lace, lace curtains and nets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Artificial Flowers	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nets, other than Wire Nets	...	...	...	...	...	..	...	...	...	...	...	...	...	..	...	...	..	...
Tents	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...
Sacks	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Furniture and Upholstery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Fur pulling	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...
Feather Sorting	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Umbrellas, &c	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carding, &c., of Buttons, &c.	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	..	...	...
Paper Bags and Boxes.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Basket Making	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brush Making.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Racquet and Tennis Balls...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Stuffed Toys	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
File Making	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Electro-Plate	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cables and Chains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anchors and Grapnels ..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cart Gear.....	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Locks, Latches, and Keys...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pea Picking..... ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....	88	78	147	2	2	...	...	1	90	...	...	321	...	...	...	...	...	...

Home Work—Continued.

* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class *only*, but the outworkers should be assigned in columns 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.

† The figures required in columns 2, 3 and 4 are the *total* number of the lists received from those employers who comply strictly with the statutory duty of sending *two* lists each year and of the entries of names of outworkers in those lists. The entries is column 2 must necessarily be *even* numbers, as there will be two lists for each employer—in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

‡ In view of the wide discrepancies found to exist between the totals in the two columns when the returns are added together, it is desired that care may be taken to give exact figures. Only those addresses should be counted which have actually been received from or forwarded to other Councils during the year covered by the report.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)	No. (2)
Bakers and Confectioners	138
Blacksmiths	16
Boot and Shoe Makers	66
Cabinet Makers	24
Joiners	59
Milliners and Dressmakers	126
Plumbers	25
Tailors	72
Other Workshops	442
Total number of Workshops on Register	968

5.—OTHER MATTERS.

Class. (1)		No. (2)
Matters notified to H.M. Inspector of Factories—		
Failure to affix Abstract of the Factory & Workshop Act (s. 133)		13
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshops Act (s. 5)	Notified by H.M. Inspector	27
	Reports (of action taken) sent to H.M. Inspector	27
Other		4
Underground Bakehouses (s. 101) :—		
Certificates granted during the year		...
In use at the end of the year		4

SALE OF FOOD AND DRUGS ACTS.

Report of the Public Analyst appointed for the County Borough of Sunderland upon the articles analysed by him under the above Acts.

I.—THE QUARTER ENDED 31st MARCH, 1909.

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority, under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis: Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
55 Milks	By an Officer acting under direction of the Town Council.	Genuine	3 of these are informal samples.
1 do. No. 2		3·3 per cent. def. in fat and 1·6 per cent. def. in non-fatty solids	Let. of caution
1 do. do. 8		10 per cent. def. in fat	Proceedings withdrawn, 5/- paid to Poor Box.
1 do. do. 9		13·3 do.	Proceedings dismissed.
1 do. do. 12		5·0 do.	Let. of caution
1 do. do. 21		Contains 35 grains of boric acid per gallon	Do.
1 do. do. 13		5·0 per cent. def. in fat	Do.
1 do. do. 14		3·3 do.	Do.
1 do. do. 42		6·6 do.	Do.
1 do. do. 43		6·6 do.	Do.
1 do. do. 46		20·0 do.	Proceedings £1 & costs.
1 do. do. 48		10·0 do.	Proceedings Dismissed
1 do. do. 63		Skimmed or separated Milk	No action.
1 do. do. 74		6·6 per cent. def. in fat	Let. of caution
1 do. do. 81		6·6 do.	Do.
1 do. do. 83		20·0 do.	Proceedings Dismissed.
1 do. do. 84		Skimmed or separated Milk of poor quality	No action.
1 do. do. 89		Skimmed or separated Milk	Do.
1 do. do. 93		6·6 per cent. def. in fat	Let. of caution
7 Butters		Genuine	Informal Samples.
2 Lards		Do.	Do.
2 Cocoa		Do.	Do.
3 Cond. Skimmed Milk		Do.	Do.
1 Coffee No. 52		Contains 30 per cent. Chicory	Do.
1 do. do. 54		Do. 45 do.	Do.
1 Plum Jam		Contains some artificial colouring matter	Do.
1 Garton's H.P. Sauce		Genuine	Do.

QUARTER ENDING 31st MARCH, 1909.—(Continued.)

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority. under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis: Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
1 Wren's Indian Chutney Sauce		Genuine.....	Informal Sample.
1 Baking Powder		Do.	Do.
1 Maville Gravy Salt ...		Do.	Do.
1 Cheese.....		Do.	Do.
1 New Honey.....		Do.	Do.

All the samples of Milk and Butter were examined for Preservatives

Genuine Samples	75
Non-Genuine Samples	21
	96

2.—QUARTER ENDED 30th JUNE, 1909.

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority, under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis: Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
13 Milks	By an Officer acting under direction of the Town Council.	Genuine	
Milk, No. 131		16·6 per cent. deficient in fat	Let. of caution
2 Skim Milk		Genuine	
2 Separated Milk		Do.	
6 Butter		Do.	1 informal sample.
7 Lard.....		Do.	2 informal.
2 Cheese		Do.	1 informal.
2 Cocoa		Do.	Informal.
1 Baking Powder		Do.	Do.
2 White Pepper.....		Do.	1 informal.
Tinned Peas, No. 100 ...		Contained 0·295 grn. copper per lb.....	Informal
1 Olive Oil		Genuine	Do.
3 Castor Oil		Do.	1 informal.
1 Cod Liver Oil.....		Do.	
1 Flowers of Sulphur ...		Do.	Informal.
1 Precipated Sulphur ...		Do.	Do.
5 Liquorice Powder, Comp.		Do.	2 informal.
3 Gregory Powder.....		Do.	1 informal.
1 Paregoric		Do.	Informal.
2 Citric Acid		Do. } free from lead	Do.
3 Tartaric Acid.....		Do. } and arsenic	Do.
3 Cream of Tartar		Do. }	Do.

All milk and butter samples examined for preservatives.

Genuine Samples	61
Non-genuine Sample	1
Doubtful	1
	63

3.—QUARTER ENDED 30th SEPTEMBER, 1909.

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority, under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis : Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
24 Milk	By an Officer acting under direction of the Town Council	Genuine.....	
No. 183.....		Deficient in non-fatty solids, 7·5 per cent.	Proceedings Dismissed.
No. 192..		Deficient in non-fatty solids, 4·3 per cent, and in fat, 5·0 per cent.	Proceedings, 10s. & costs.
No. 193.....		Deficient in fat, 1·6 per cent.	Let. of caution
No. 195.....		Do. 3·3 do.	Do.
No 197.....		Do. 6·6 do.	Do.
No. 201		Do. 10·0 do.	Do.
4 Butter..		Genuine.....	Informal Samples.
2 Lard.....		Do.	Do.
3 Flour		Do.	Do.
2 Baking Powder		Do.	Do.
2 Arrowroot		Do.	Do.
2 Pepper.....		Do.	Do.

All Milk and Butter samples examined for preservatives.

Genuine Samples	39
Non-genuine Samples	6
	45

4.—QUARTER ENDED 31st DECEMBER, 1909.

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority. under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis : Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations
13 Butter	By an Officer acting under the direction of the Town Council.	Genuine.....	7 of these informal.
No. 207		Contd. 0·25 per cent. of boric acid. Doubtful	Informal
No. 222		„ 0·06 „ „	
No. 231		„ 0·05 „ „	„
No. 241		„ 0·26 „ „	
No. 255		„ 0 09 „ „	„
Margarine No. 209		„ 0·15 „ „	„
No. 214		„ 0·12 „ „	„
No. 229		„ 1·12 „ „	„
No. 234		„ 0 13 „ „	„
1 Cream		Genuine.....	„
No. 204		Contd. 0·47 per cent. of boric acid. Doubtful	„
No. 210		„ 0·52 „ „	„
No. 211		„ 0·36 „ „	„
No. 212		„ 0·46 „ „	„
No. 213		„ 0·53 „ „	„
13 Lard		Genuine.....	7 of these informal.
No. 215		Contd. at least 45 per cent. cotton seed oil and 10 per cent. beef stearine	Proceedings, £5 and costs.
No. 216		Contd. at least 70 per cent. cotton seed oil and 15 per cent. beef stearine.....	Proceedings, 20s. and costs.
1 "Nutola" Lard		Genuine	A vegetable lard-substitute, infrml.
2 Cheese		„	
1 Honey		„	Informal
1 Lemon Cheese		„	„
2 Pepper..... ...		„	
1 Coffee		„	„
1 Chicory		„	„

Articles submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority, under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis: Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
1 Corn Flour	By an Officer acting under the direction oi the Town Council.	Genuine.....	Informal.
7 Whiskey		„	4 of these informal.
No. 257		Excess water 2·8 per cent ; 27·1° under proof	Informal
No. 267		Excess water 1·1 per cent ; 25·8° under proof	Let. of caution
1 Rum.....		Genuine.....	
No. 269		Excess water 1·6 per cent. ; 26·2° under proof	„ „
2 Gin		Genuine.....	
2 Brandy		Genuine.....	

All butter and margarine samples examined for preservatives.

Genuine Samples	49
Non-Genuine Samples	5
Doubtful	14
	68

Summary for the Year—

Genuine Samples Examined...	224
Non-Genuine Samples	33
Doubtful	15
	272

JOHN PATTINSON,

J. T. DUNN,

Public Analysts.

CONCLUSION.

I beg, herewith, to thank the Chairman, Vice-Chairman, and Members of the Health Committee for their courtesy and help extended to me throughout the year.

I acknowledge, with thanks, the assistance of my colleagues in the other Departments of the Corporation, also the co-operation of the Chief Constable, the Clerks to the Justices of the Peace for the County and Borough, the Clerk to the Guardians, the Head Teachers of the Elementary Schools, and the Vaccination Officers.

I wish to record my indebtedness to many Medical Officers of Health for valuable information concerning questions of sanitary administration, etc. I shall have pleasure in reciprocating.

Chief Inspector Pennock and the whole of the Staff of the Health Department have at all times fulfilled their duties with faithfulness and zeal, and I take this opportunity to say how much I appreciate their assistance.

HENRY RENNEY,

M.D., B.S., D.Hy., D.P.H.

May, 1909.

APPENDIX.

VITAL AND SANITARY STATISTICS

TOGETHER WITH

NEW TABLES REQUIRED BY THE LOCAL GOVERNMENT BOARD.

1909.

INCLUDING THE

ABSTRACT FOR TEN YEARS, 1900-1909.

LOCAL GOVERNMENT BOARD TABLE I.

Showing the Population, Births, and Deaths for the whole of the Borough for the year 1909 and 10 years preceding.

Year.	Population estimated to Middle of each Year.	Births.		Deaths under 1 year of age		Deaths at all ages. Total.		Deaths in Public Institutions.	Deaths of Non-residents registered in District.	Deaths of Residents registered beyond District.	Deaths at all ages. Nett.	
		Number.	Rate.*	Number.	Rate per 1000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1899	143450	5184	36·1	913	176	3113	21·7	462	...	...	...	...
1900	144945	5256	36·3	889	167	3147	21·7	405	...	...	...	...
1901	146456	5279	36·0	946	179	3123	21·3	401	...	...	...	...
1902	147983	5391	35·7	825	171	2914	19·3	456	...	...	...	...
1903	149526	5195	34·5	817	157	2970	19·8	481	...	...	...	...
1904	151093	5194	34·4	857	165	2935	19·4	464	..	..	...	...
1905	152659	5223	34·2	748	143	2853	18·6	485	...	...	...	...
1906	154251	5375	34·8	752	140	2858	18·5	474	...	...	...	...
1907	155859	5330	34·2	696	130	2973	19·1	500	..	...	...	...
1908	157495	5180	32·9	748	144	2754	17·5	511	...	...	..	...
Averages for years 1899-08	150372	5261	34·9	819	157	2964	19·7	464	...	...	...	...
1909	159137	4765	29·4	650	136	2763	17·0	591	...	...	...	...

* Rates calculated per 1,000 of estimated population.

NOTE.—The Deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The Deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of illness, and dying there; and by the term "Residents" is meant persons who have been taken out of the district on account of illness, and have died elsewhere.

Area of District in acres, 3,357.

Total Population at all ages	146,077	At Census of 1901.
Number of Inhabited Houses	21,473	
Average Number of Persons per House ...	6·8	

LOCAL GOVERNMENT BOARD TABLE II.

Showing the Population, Births, and Deaths for the Three Districts of the Borough for the year 1909.

Year.	Sunderland East.				Sunderland West.				Sunderland North.			
	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	a.	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*
1899 1900 1901 1902	The Registration Sub-Districts of the Borough figures for 1903, re-arranged in 1904, 1905, 1906, 1907, 1908, and 1909.											
1903	55419	1884	1269	351	61619	2125	1090	280	32488	1186	611	186
1904	55884	1960	1185	340	62093	2012	1093	327	33116	1222	657	190
1905	56463	2005	1212	320	62737	2052	996	235	33459	1166	645	193
1906	57052	2027	1187	309	63391	2090	1029	261	33808	1258	642	182
1907	54647	1960	1238	310	64052	2100	1071	236	34160	1270	664	150
1908	58252	1975	1170	321	64724	1973	1004	258	34519	1232	580	169
Averages of Years 1899 to 1908	...	...	...	...	...	...	...	...	...	...	...	...
1909	58974	1832	1110	267	65570	1826	1029	222	34595	1127	624	169

Notifiable Disease.	Cases notified in Whole District.							Total Cases notified in each Locality.			***No. of Cases Removed to Hospital from each Locality.			Total Cases removed to Hospital.
	At all Ages.	† At Ages—Years.						Sunderland East.	Sunderland West.	Sunderland North.	Sunderland East.	Sunderland West.	Sunderland North.	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.							
Small-pox	...	...	...	...	...	...	...	...	(W) ...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Diphtheria (including Membranous croup)	229	5	72	118	21	13	...	66	110	53	...	...	...	...
Erysipelas	135	...	...	...	...	...	...	55	48	32	...	...	...	...
Scarlet fever	596	2	133	416	31	14	...	217	284	95	105	149	48	302
Typhus fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric fever	96	...	13	35	23	24	1	48	27	21	41	17	16	74
Relapsing fever	...	...	...	...	...	..	...	...	...	...	.	...	...	...
Continued fever	2	...	...	2	...	...	...	...	..	2	...	...	2	2
Puerperal fever	7	...	...	...	2	5	..	1	4	2	...	...	..	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Phthisis (Voluntary Notification)	82		...	...	...	...	...	39	23	20	...	...	...	...
*Phthisis—Public Health (Tuberculosis) Regulations	168	...	5	13	33	116	1	85	45	38	...	...	...	...
Totals	1315	...	...	...	...	...	...	511	541	263	146	166	66	378

Notes.—The localities adopted for this table should be the same as those in Tables II. and IV.

State in space below the name of the isolation hospital, if any, to which residents in the district, suffering from infectious disease, are usually sent. Mark (H) the locality in which it is situated, or if not within the district, state where it is situated, and in what district. The name of the authority by whom the hospital is provided should also be given. Mark (W) the locality in which a workhouse is situated.

* This space may be used for record of other disease the notification (compulsory or voluntary) of which is in force in the district.

† These age columns for notifications should be filled up in all cases where the Medical Officer of Health, by inquiry or otherwise, has obtained the necessary information.

*** Column 8 should be filled up with the Totals of all cases removed to Hospital, whether the District is divided into separate localities or consists of only one undivided area.

Isolation Hospital.—Name and Situation, Borough Sanatorium for Infectious Diseases, Ford, provided by the Corporation of the County Borough of Sunderland. Total available beds, 90. Number of Diseases that can be concurrently treated, 3.

LOCAL GOVERNMENT BOARD TABLE IV.

Showing Causes of and Ages at Death during Year 1909.

Causes of Death.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.							Deaths at all ages of "Residents" belonging to localities, whether occurring in or beyond the District.			Deaths in Public Institutions.
	All Ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Sunderland East.	Sunderland West.	Sunderland North.	
Smallpox	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Measles	166	30	125	11	.....	.....	.....	65	58	43	4
Scarlet Fever	16	.....	9	7	.....	.....	.....	8	3	5	9
Whooping Cough	38	11	25	2	.....	.....	.....	15	10	13	.....
Diphtheria, (including Membranous Croup)	32	3	19	10	.....	.....	.....	12	11	9	1
Croup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fever—Typhus	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fever—Enteric	14	.....	1	.....	4	9	.....	4	6	4	11
Fever—Other continued	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Epidemic Influenza	16	.....	.....	.....	.....	9	7	6	7	3	1
Cholera	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plague	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa (see notes at back)	53	36	14	.....	.....	1	2	21	17	15	.....
Enteritis (see notes at back)	13	7	2	2	.....	.....	2	3	3	7	.....
Gastritis (do.)	23	11	4	2	.....	3	3	20	2	1	.....
Puerperal Fever (do.)	3	.....	.....	.....	3	.....	.....	1	1	1	.....
Erysipelas	7	2	.....	.....	1	2	2	4	1	2	3
Phthisis (Pulmonary Tuberculosis)	184	1	8	11	45	118	1	81	58	45	70
Other Tuberculous Diseases	97	13	40	28	7	9	.....	28	44	25	10
Cancer, Malignant Disease (See notes at back)	117	.....	.....	1	3	66	47	48	46	23	35
Bronchitis	321	96	54	1	1	71	98	161	102	58	42
Pneumonia	255	43	79	11	11	83	28	84	109	62	55
Pleurisy	9	.....	2	1	.....	5	1	4	4	1	5
Other Diseases of Respiratory Organs	19	2	6	.....	.....	6	5	7	6	6	1
Alcoholism—Cirrhosis of Liver	19	.....	.....	.....	.....	16	3	9	7	3	2
Venereal Diseases	7	4	1	.....	.....	2	.....	6	1	.....	.....
Premature Birth	95	95	.....	.....	.....	.....	.....	38	38	19	.....
Diseases and Accidents of Parturition	11	.....	.....	1	1	9	.....	5	4	2	2
Heart Diseases	225	.....	.....	5	9	122	89	81	102	42	46
Accidents	75	15	11	9	7	20	13	26	35	14	40
Suicides	21	.....	.....	.....	1	17	3	9	9	3	3
All other causes	927	281	65	39	19	246	277	364	345	218	252
All causes	2763	650	465	141	112	814	581	1110	1029	624	592

NOTES TO TABLES IV. AND V.

(A) In Table IV., all deaths of "Residents" occurring in public institutions, whether within or without the district, are to be INCLUDED with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-15, to be INCLUDED among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-residents" occurring in public institutions in the districts are in like manner to be EXCLUDED from columns 2-8 and 9-15 of Table IV.

(B) See notes on Table I. as to the meaning of "Residents" and "Non-residents," and as to the "Public Institutions" to be taken into account for the purposes of these Tables. The "Localities" in Table IV. should be the same as those in Tables II. and III.

(C) All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-residents," are, in addition to being dealt with as in note (A), to be entered in the last column of Table IV. The total number in this column should equal the figures for the year in column 9, Table I.

(D) The total deaths in the several "Localities" in columns 9-15 of Table IV. should equal those for the year in the same localities in Table II., sub-columns c. The total deaths at all ages in column 2 of Table IV. should equal the gross total of columns 9-15, and the figures for the year in column 12 of Table I.

(E) Under the heading of "Diarrhœa" are to be included deaths registered as due to Epidemic diarrhœa, Epidemic enteritis, Infective enteritis, Zymotic enteritis Summer diarrhœa, Dysentery and Dysenteric diarrhœa, Choleraic diarrhœa, Cholera (other than Asiatic or epidemic) and Cholera Nostras.

Deaths from diarrhœa secondary to some well defined disease should be included under the latter.

Deaths from Enteritis, Muco-Enteritis, Gastro-Enteritis, and Gastritis (see under the heading Diarrhœal Diseases in Table V.) in Tables IV. and V. should be placed immediately below, but separately from, those enumerated under the heading Diarrhœa as defined by enumeration above. This is particularly important for deaths under one year of age, as many of the deaths in infancy returned as due to Enteritis are really caused by Epidemic Diarrhœa. In the course of years, by the adoption of this recommendation, it will be practicable to ascertain the probable amount of transfer between these different headings.

(F) Under the headings of "Cancer" and "Puerperal fever" should be included all registered deaths from causes comprised within these general terms. Thus: Under "Cancer" should be included deaths from Cancer, Carcinoma, Malignant disease, Scirrhus, Epithelioma, Sarcoma, Villous tumour, and Papilloma of bladder, Rodent ulcer. Under "Puerperal Fever" are to be included deaths from Pyæmia, Septicæmia, Sapræmia, Pelvic peritonitis, Peri- and Endo-Metritis occurring in the Puerperium.

(G) Under "Congenital Defects" in Table V. are to be included deaths from Atelectasis, Icterus neonatorum, Navel hæmorrhage, Malformations and Congenital hydrocephalus.

(H) Under "Tuberculous Meningitis" are to be included deaths from Acute hydrocephalus.

(I) Under "Other Tuberculous Diseases" are to be included deaths from Tuberculosis, Tuberculosis of bones, joints and other organs, Lupus and Scrofula.

(J) All deaths certified by registered Medical Practitioners and all Inquest cases are to be classed as "Certified"; all other deaths are to be regarded as "Uncertified."

TABLE V.

WHOLE BOROUGH.

Infantile Mortality during the Year 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.

(See notes at back of Table IV.)

CAUSE OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-2 months.	2-3 months.	3-4 months.	4-5 months.	5-6 months.	6-7 months.	7-8 months.	8-9 months.	9-10 months.	10-11 months.	11-12 months.
All Causes Certified	138	30	32	21	221	66	58	33	37	25	22	37	31	33	36	37
All Causes Uncertified	9	....	....	...	9	1	....	....	1	....	1	1	....	1	....	....
Common Infectious Diseases.																
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	....	....	....	....	....	....	....	....	....	1	....	2	9	5	7	6
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria, including Membranous Croup	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2
Whooping Cough	....	....	....	1	1	1	3	....	1	....	....	1	....	3	1	....
Diarrhœal Diseases. (See notes to Table IV.)																
Diarrhœa, all forms	....	....	....	....	....	2	5	4	5	3	3	4	4	2	1	3
Enteritis, Muco enteritis, Gastro enteritis	....	1	....	....	1	1	....	....	2	....	....	1	....	2	....	....
Gastritis, Gastro-intestinal Catarrh	....	....	1	1	2	1	2	....	2	2	1	....	....	....	1	2
Wasting Diseases.																
Premature Birth	77	5	4	2	88	5	2	....	....	....	....	....	....	...	....	....
Congenital Defects (See notes to Table IV.)	15	4	....	2	21	2	1	....	....	1	1	1	....	....	....	....
Injury at Birth	6	...	....	....	6	....	....	....	....	....	....	....	....	....	....	....
Want of Breast-milk	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Atrophy, Debility, Marasmus	34	10	15	8	67	23	22	11	11	5	3	3	2	4	8	4
Tuberculous Diseases.																
Tuberculous Meningitis (See notes to Table IV.)	....	....	....	....	....	....	....	....	....	1	....	....	....	1	2	....
Tuberculous Peritonitis : Tabes Mesenterica	....	....	....	....	....	....	1	....	....	1	1	....	....	....	....	....
Other Tuberculous Diseases (See notes to Table IV.)	....	....	....	....	....	....	....	1	2	1	....	1	....	1	....	1
Erysipelas	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....
Syphilis	....	....	2	....	2	....	1	1	....	....	....	....	....	....	....	....
Rickets	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....
Meningitis *(not Tuberculous)*	....	....	....	....	....	....	2	3	....	2	....	1	....	1	2	....
Convulsions	8	3	4	1	16	12	6	2	6	....	1	1	3	1	...	1
Bronchitis	1	5	3	4	13	10	8	8	5	5	6	12	6	6	5	12
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....
Pneumonia	1	....	1	....	2	1	3	1	2	2	2	6	7	7	6	4
Suffocation, overlying	2	2	....	1	5	5	1	1	1	....	....	....	....	....	....	....
Other Causes	3	....	2	1	6	2	....	....	1	1	5	3	....	1	2	2
	147	30	32	21	230	67	58	33	38	25	23	38	31	34	36	37

Population (estimated to middle of 1909), 159,137.

Births in the Year: Legitimate.....4,583. Illegitimate ... 182.

Deaths from all causes at all ages, 2,7

LOCAL GOVERNMENT BOARD.

TABLE V. (A.)

SUNDERLAND EAST SUB-DISTRICT.

Infantile Mortality during the Year 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.
(See Notes at back of Table IV.)

CAUSE OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-2 months.	2-3 months.	3-4 months.	4-5 months.	5-6 months.	6-7 months.	7-8 months.	8-9 months.	9-10 months.	10-11 months.	11-12 months.	Total Deaths under 1 year.
All Causes (Certified)	50	13	14	5	82	30	27	12	15	7	12	16	15	15	14	18	263
All Causes (Uncertified)	2	....	....	....	2	....	....	....	1	....	....	1	....	....	....	....	4
Common Infectious Diseases.																	
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	....	....	....	....	....	....	....	....	....	....	....	....	5	4	2	3	14
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria, including Membranous Croup	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	2
Whooping Cough	....	....	....	1	1	....	2	....	....	....	....	....	....	....	1	....	4
Diarrhœal Diseases. (See Notes to Table IV.)																	
Diarrhœa, all forms	....	....	....	....	....	1	2	1	3	1	....	....	3	1	....	2	14
Enteritis, Muco enteritis, Gastro enteritis	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	2
Gastritis, Gastro-intestinal Catarrh	....	....	1	1	2	1	2	....	2	2	1	....	....	....	1	1	12
Wasting Diseases.																	
Premature Birth	30	3	2	....	35	2	1	....	....	....	....	....	....	....	....	....	38
Congenital Defects (See Notes to Table IV.)	2	2	....	....	4	....	....	....	....	....	1	1	....	....	....	....	6
Injury at Birth	2	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	2
Want of Breast-milk	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
Atrophy, Debility, Marasmus	10	4	8	1	23	8	7	3	4	1	2	2	....	1	3	2	56
Tuberculous Diseases.																	
Tuberculous Meningitis (See Notes to Table IV.)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculous Peritonitis: Tabes Mesenterica	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	2
Other Tuberculous Diseases (See Notes to Table IV.)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Erysipelas	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1
Syphilis	....	....	1	....	1	....	1	1	....	....	....	....	....	....	....	....	3
Rickets	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1
Meningitis *(not Tuberculous)*	....	....	....	....	....	....	1	1	....	1	....	1	....	1	1	....	6
Convulsions	6	2	1	....	9	8	5	....	3	....	....	1	1	1	....	....	28
Bronchitis	1	2	1	2	6	6	4	4	3	1	4	6	4	3	3	7	51
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Pneumonia	....	....	....	....	....	1	....	1	1	1	....	3	2	2	1	2	14
Suffocation, overlying	1	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	3
Other Causes	....	....	....	....	....	....	....	....	....	....	3	1	....	1	1	....	6
	52	13	14	5	84	30	27	12	16	7	12	17	15	15	14	18	267

Population (estimated to middle of 1909), 58,974.

Births in the Year — Legitimate.....1,759. Illegitimate ... 73.

Deaths from all causes at all ages, 1,110.

LOCAL GOVERNMENT BOARD.

TABLE V. (B.)

SUNDERLAND WEST SUB-DISTRICT.

Infantile Mortality during the Year 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.
(See Notes at back of Table IV.)

CAUSE OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-2 months.	2-3 months.	3-4 months.	4-5 months.	5-6 months.	6-7 months.	7-8 months.	8-9 months.	9-10 months.	10-11 months.	11-12 months.	Total Deaths
All Causes Certified	56	10	11	10	87	19	15	14	13	14	5	9	9	8	12	11	2
All Causes Uncertified	4	....	....	....	4	....	....	....	....	....	1	....	....	1	....	....	
Common Infectious Diseases.																	
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Chicken-pox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Measles	....	....	....	....	....	....	....	....	....	1	....	1	1	1	2	2	
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Diphtheria, including Membranous Croup	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	
Whooping Cough	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	
Diarrhœal Diseases. (See Notes to Table IV.)																	
Diarrhœa, all forms	....	....	....	....	....	1	1	2	1	1	2	1	1	....	1	....	
Enteritis, Muco enteritis, Gastro enteritis	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	
Gastritis, Gastro-intestinal Catarrh	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	
Wasting Diseases.																	
Premature Birth	32	1	1	1	35	2	1	....	....	....	....	....	....	....	....	....	
Congenital Defects (See Notes to Table IV.)	9	2	....	1	12	1	1	....	....	1	....	....	....	....	....	....	
Injury at Birth	2	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	
Want of Breast-milk	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Atrophy, Debility, Marasmus	14	3	4	5	26	9	6	4	5	1	....	....	2	2	2	....	
Tuberculous Diseases.																	
Tuberculous Meningitis (See Notes to Table IV.)	....	....	....	....	....	....	....	....	....	1	....	....	....	1	2	....	
Tuberculous Peritonitis: Tabes Mesenterica	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	
Other Tuberculous Diseases (See Notes to Table IV.)	....	....	....	....	....	....	....	1	2	1	....	....	....	1	....	1	
Erysipelas	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	
Syphilis	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	
Rickets	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Meningitis *(not Tuberculous)*	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	
Convulsions	1	1	1	1	4	1	1	2	1	....	1	....	1	....	....	1	
Bronchitis	....	2	1	1	4	....	3	3	1	4	1	3	....	2	1	4	
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Pneumonia	1	....	1	....	2	....	1	....	1	1	1	2	4	1	3	....	
Suffocation, overlying	1	1	....	....	2	3	1	1	....	....	....	....	....	....	....	....	
Other Causes	....	....	2	1	3	....	....	....	....	1	1	2	....	....	1	1	
	60	10	11	10	91	19	15	14	13	14	6	9	9	9	12	11	

Population (estimated to middle of 1909), 65,570

Births in the Year: Legitimate.....1,721. Illegitimate ... 85.

Deaths from all causes at all ages, 1029.

LOCAL GOVERNMENT BOARD.

TABLE V. (C).

SUNDERLAND NORTH SUB-DISTRICT.

Infantile Mortality during the Year 1908.

Deaths from stated Causes in Weeks and Months under One Year of Age.
(See Notes at back of Table IV.)

CAUSE OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-2 months.	2-3 months.	3-4 months.	4-5 months.	5-6 months.	6-7 months.	7-8 months.	8-9 months.	9-10 months.	10-11 months.	11-12 months.	Total Deaths under 1 year.
All Causes — Certified	32	7	7	6	52	17	16	7	9	4	5	12	7	10	10	8	157
All Causes — Uncertified	3	..	....	....	3	1	....	....	....	....	....	....	....	....	....	....	4
Common Infectious Diseases.																	
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	....	....	....	....	....	....	....	....	....	....	....	1	3	....	3	1	8
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria, including Membranous Croup	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Whooping Cough	....	....	....	....	....	1	1	....	....	....	....	1	....	2	....	....	5
Diarrhœal Diseases. (See Notes to Table IV.)																	
Diarrhœa, all forms	....	....	....	....	....	....	2	1	1	1	1	3	....	1	....	1	11
Enteritis, Muco-enteritis, Gastro-enteritis	....	1	....	....	1	....	....	....	1	....	....	....	....	1	....	....	3
Gastritis, Gastro-intestinal Catarrh	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Wasting Diseases.																	
Premature Birth	15	1	1	1	18	1	....	....	....	....	....	....	....	....	....	....	19
Congenital Defects (See Notes to Table IV.)	4	....	....	1	5	1	....	....	....	....	....	....	....	....	....	....	6
Injury at Birth	2	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	2
Want of Breast-milk	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Atrophy, Debility, Marasmus	10	3	3	2	18	6	9	4	2	3	1	1	....	1	3	2	50
Tuberculous Diseases.																	
Tuberculous Meningitis (See Notes to Table IV.)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculous Peritonitis: Tabes Mesenterica	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Tuberculous Diseases (See Notes to Table IV.)	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Erysipelas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Syphilis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Rickets	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Meningitis *(not Tuberculous)*	....	....	....	....	....	....	1	1	....	....	....	....	....	....	1	....	3
Convulsions	1	....	2	....	3	3	....	....	2	....	....	....	1	....	....	....	9
Bronchitis	....	1	1	1	3	4	1	1	1	....	1	3	2	1	1	1	19
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pneumonia	....	....	....	....	....	....	2	....	....	....	1	1	1	4	2	2	13
Suffocation, overlaying	....	1	....	1	2	....	....	....	1	....	....	....	....	....	....	....	3
Other Causes	3	....	....	....	3	2	....	....	1	....	1	....	....	....	....	1	8
	35	7	7	6	55	18	16	7	9	4	5	12	7	10	10	8	161

Population (estimated to middle of 1909), 34,595.

Births in the Year — Legitimate .....1,103. Illegitimate ... 24.

Deaths from all causes at all ages, 624.

TABLE VI.

SHOWING DEATHS FROM ALL CAUSES DURING THE YEAR **1909.**

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals.
Smallpox { Vaccinated	....	....	....	....	....	....	....	....	....	....	....	....	....
Smallpox { Unvaccinated	....	....	....	....	....	....	....	....	....	....	....	....	....
Smallpox { No statement	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	30	125	11	....	....	....	....	....	....	....	....	....	166
Scarlet Fever	....	9	7	....	....	....	....	....	....	....	....	....	16
Typhus Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Epidemic Influenza	....	....	....	....	1	1	2	5	4	3	....	....	16
Whooping Cough	11	25	2	....	....	....	....	....	....	....	....	....	38
Diphtheria, Membranous Croup	3	19	10	....	....	....	....	....	....	....	....	....	32
Enteric Fever	....	1	....	4	5	3	1	....	....	....	....	....	14
Asiatic Cholera	....	....	....	....	....	....	....	....	....	....	....	....	....
Diarrhœa, Dysentery	33	13	....	....	....	....	1	....	2	....	....	....	49
Epidemic or Zymotic Enteritis	3	1	....	....	....	....	....	....	....	....	....	....	4
Other Allied Diseases	....	....	1	....	....	....	....	....	....	....	....	....	1
Hydrophobia	....	....	....	....	....	....	....	....	....	....	....	....	....
Glanders, Farcy	....	....	....	....	....	....	....	....	....	....	....	....	....
Tetanus	....	....	....	....	....	....	....	....	....	....	....	....	....
Anthrax, Splenic Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Cowpox, Accidents of Vaccination	....	....	....	....	....	....	....	....	....	....	....	....	....
Syphilis	4	1	....	....	....	....	2	....	....	....	....	....	7
Gonnorhœa	....	....	....	....	....	....	....	....	....	....	....	....	....
Phagedœna	....	1	....	....	....	....	....	....	....	....	....	....	1
Erysipelas	2	....	....	1	....	1	....	1	1	1	....	....	7
Puerperal Fever	....	....	....	3	....	....	....	....	....	....	....	....	3
Pyæmia, Septicæmia	....	....	....	....	....	1	....	....	....	1	....	....	2
Infective Endocarditi	....	....	....	....	1	....	....	....	....	....	....	....	1
Other Allied Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....
Malarial Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Rheumatic Fever	....	....	1	1	....	3	1	....	....	....	....	....	6
Rheumatism of the Heart	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculosis of Brain or Meninges, Acute Hydrocephalus	4	10	12	1	2	....	....	....	....	....	....	....	29
Tuberculosis of Larynx	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculosis of Lungs	1	8	11	45	44	41	25	8	1	....	....	....	184
Tuberculosis of Intestines, Tabes Mesenterica	3	18	3	1	2	....	....	....	....	....	....	....	27
General Tuberculosis, Tubercular Disease of Undefined Position	6	10	13	4	....	....	....	....	....	....	....	....	33
Other forms of Tuberculosis, Scrofula	....	2	....	1	2	1	1	1	....	....	....	....	8
Other Infective Diseases	....	....	....	....	....	....	....	....	....	....	....	..	....
Thrush	....	....	....	....	....	....	....	....	....	....	....	....	....
Actinomycosis	....	....	....	....	....	....	....	....	....	....	....	..	....
Hydatid Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....
Scurvy	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Diseases due to altered Food	....	....	....	....	....	....	....	....	....	....	....	....	....
Starvation	....	....	....	....	....	....	....	....	....	....	....	....	....
Acute Alcoholism, Delirium Tremens	....	....	....	....	....	1	....	1	....	....	....	....	2
Chronic Alcholism	....	....	....	....	....	....	1	1	....	....	....	....	2
Chronic Industrial Poisoning	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Chronic Poisonings	....	....	....	....	....	....	....	....	....	....	....	....	....
Osteo-arthritis, Rheumatoid Arthritis	....	....	....	....	1	....	....	....	....	1	....	....	2
Gout	....	....	....	....	....	....	....	....	....	....	....	....	....
Cancer	....	....	1	3	4	11	18	33	38	9	....	....	117
Diabetes Mellitus	....	1	....	....	....	....	2	6	2	1	....	....	12
Purpura Hæmorrhagica	....	....	....	....	....	....	....	....	....	....	....	....	....
Hæmophilia	....	....	....	....	....	....	....	....	....	....	....	....	....
Anæmia, Leucocythæmia	....	....	1	2	1	1	2	4	3	1	....	....	15
Lymphadenoma, Hodgkin's Disease	....	....	1	....	....	....	....	....	....	....	....	....	1

TABLE VI.—Continued.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals.
Myxœdema	....	....	....	....	....	1	....	....	....	1	....	....	2
Exophthalmic Goitre	....	....	....	....	....	....	1	....	....	....	....	....	1
Premature Birth	95	....	....	....	....	....	....	....	....	....	....	....	95
Injury at Birth	6	....	....	....	....	....	....	....	....	....	....	....	6
Debility at Birth	75	....	....	....	....	....	....	....	....	....	....	....	75
Atelectasis	10	....	....	....	....	....	....	....	....	....	....	....	10
Congenital Defects	17	2	....	....	....	....	....	....	....	....	....	....	19
Want of Breast Milk	1	....	....	....	....	....	....	....	....	....	....	....	1
Atrophy, Debility, Marasmus	88	16	....	....	....	....	....	....	....	....	....	....	104
Dentition	5	5	....	....	....	....	....	....	....	....	....	....	10
Rickets	2	4	....	....	....	....	....	....	....	....	....	....	6
Old Age, Senile Decay	....	....	....	....	....	....	....	5	42	73	23	1	144
Convulsions	49	8	....	....	....	....	....	....	....	....	....	....	57
Meningitis	11	18	13	....	2	1	....	1	1	....	....	....	47
Encephalitis	....	....	....	....	....	....	....	....	....	....	....	....	....
Apoplexy	....	....	....	....	1	3	20	39	46	17	1	....	127
Softening of Brain	....	....	....	....	....	....	....	....	1	1	....	....	2
Hemiplegia, Brain Paralysis	....	....	....	....	....	....	3	4	3	3	1	....	14
General Paralysis of the Insane	....	....	....	....	2	4	2	1	....	1	....	....	10
Other Forms of Insanity	....	....	....	....	1	2	1	4	3	4	....	....	15
Chorea	....	....	2	....	....	....	....	....	....	....	....	....	2
Cerebral Tumour	....	....	....	....	....	....	....	....	....	....	....	....	....
Epilepsy	....	....	1	1	3	1	1	1	....	....	....	....	8
Laryngismus Stridulus	....	....	....	....	....	....	....	....	....	....	....	....	....
Locomotor Ataxy	....	....	....	....	....	1	1	....	....	....	....	....	2
Paraplegia. Diseases of Spinal Cord	....	....	1	1	1	....	1	2	2	1	....	....	9
Other and Ill-defined Diseases of Brain or Nervous System	2	....	....	....	2	1	1	3	2	....	....	....	11
Otitis, Otorrhœa	2	1	2	....	2	....	1	....	....	....	....	....	8
Diseases of Nose, Epistaxis	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of Eye	1	....	....	....	....	....	....	....	....	....	....	....	1
Endocarditis, Valvular Diseases of Heart	....	....	2	3	3	9	9	12	13	6	....	....	57
Pericarditis	....	....	....	....	....	1	....	....	....	....	....	....	1
Hypertrophy of Heart	....	....	....	....	....	....	....	....	....	....	....	....	....
Angina Pectoris	....	....	....	....	....	....	1	....	3	2	....	....	6
Aneurism	....	....	....	....	1	....	4	1	1	....	....	....	7
Senile Gangrene	....	....	....	....	....	....	....	2	1	....	....	....	3
Embolism, Thrombosis	....	....	....	....	2	2	2	3	1	....	....	....	10
Phlebitis	....	....	....	....	....	....	....	....	1	....	....	....	1
Varicose Veins	....	....	....	....	....	....	....	....	....	....	....	....	....
Other and Ill-defined Diseases of Heart and Circulatory System	....	....	3	6	5	9	29	44	44	20	1	....	161
Laryngitis	1	5	....	....	....	....	....	1	....	....	....	....	7
Croup	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Diseases of Larynx and Trachea	....	1	....	....	....	....	....	....	....	....	....	....	1
Acute Bronchitis	96	54	1	1	1	5	13	26	44	13	5	....	259
Chronic Bronchitis	....	....	....	....	....	1	4	21	25	11	....	....	62
Lobar Croupous Pneumonia	....	1	....	5	3	5	3	4	1	....	....	....	22
Lobular Broncho-Pneumonia	28	44	3	....	2	....	1	5	4	1	....	....	88
Pneumonia, form not stated	15	34	8	6	10	12	16	22	15	6	1	....	145
Emphysema, Asthma	1	....	....	....	....	1	2	....	3	....	1	....	8
Pleurisy	....	2	1	....	1	....	2	2	....	1	....	....	9
Other and Ill-defined Diseases of the Respiratory System	....	....	....	....	....	1	....	1	1	....	....	....	3
Diseases of Mouth and Annexa	....	1	1	....	1	....	....	....	....	....	....	....	3
Diseases of Pharynx	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of Œsophagus	....	....	....	....	....	....	....	1	....	....	....	....	1
Ulcer of Stomach and Duodenum	....	....	....	2	1	4	1	2	2	....	....	....	12
Other Diseases of Stomach	13	4	2	....	2	1	1	1	4	....	....	....	28
Enteritis	7	2	2	....	....	....	....	....	2	....	....	....	13
Appendicitis	....	....	5	2	1	2	....	1	....	....	....	....	11
Obstruction of Intestine	3	1	1	1	....	1	3	3	8	1	....	....	22
Other Diseases of Intestine	1	....	....	1	1	1	....	1	1	....	....	....	6
Cirrhosis of Liver	....	....	....	....	1	8	2	1	3	....	....	....	15
Other Diseases of Liver	1	....	....	....	....	1	3	1	4	....	....	....	10
Peritonitis	....	....	2	1	....	1	....	....	2	....	....	....	6
Other and Ill-defined Diseases of Digestive System	....	....	....	....	....	....	....	....	....	....	....	....	....

TABLE VI.—CONTINUED.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals.
Diseases of Lymphatic System and Ductless Glands	1	....	....	....	....	1	....	1	....	....	....	....	3
Acute Nephritis	....	1	1	2	2	4	1	2	1	....	....	....	14
Bright's Disease	....	2	2	....	2	9	6	7	9	....	1	....	38
Calculus	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of Bladder and Prostate	....	....	....	1	....	....	1	..	2	1	2	....	7
Other and Ill-defined Diseases of Urinary System	....	....	1	....	....	....	....	....	....	....	....	....	1
Diseases of Testis and Penis	....	....	....	....	....	....	....	1	..	....	....	....	1
Diseases of Ovaries	....	....	....	....	....	....	....	1	....	....	....	....	1
Diseases of Uterus and Appendages	....	....	....	....	....	1	....	1	....	....	....	....	2
Diseases of Vagina and External Genital Organs	....	....	....	..	....	....	....	....	....	....	....	....	....
Diseases of Breast	..	....	....	....	....	....	....	....	....	....	....	....	....
Abortion, Miscarriage	....	....	....	....	....	....	....	....	....	....	....	....	....
Puerperal Mania	....	....	....	....	....	....	....	....	....	....	....	....	....
Puerperal Convulsions	....	....	1	1	....	1	....	....	....	....	....	....	3
Placenta Prævia, Flooding	....	....	....	....	1	1	....	....	....	....	....	....	2
Puerperal Thrombosis	....	....	....	....	2	....	....	....	....	....	....	....	2
Other and Ill-defined Accidents and Diseases of Pregnancy and Child Birth	....	....	..	....	2	2	....	....	....	....	....	....	4
Arthritis, Ostitis, Periostitis	....	....	1	....	....	....	..	....	....	....	....	....	1
Other and Ill-defined Diseases of the Osseous System	....	1	2	1	....	....	....	....	....	....	....	....	4
Ulcer, Bedsore	....	....	....	....	....	....	....	....	....	....	....	....	....
Eczema	....	....	....	....	....	....	....	....	....	....	....	....	....
Pemphigus	1	....	....	....	....	....	....	....	....	....	....	....	1
Other and Ill-defined Diseases of Integumentary System	2	2	....	....	1	....	....	....	1	....	....	....	6
Accident or Negligence —													
In Mines and Quarries	....	....	....	1	....	....	1	....	....	....	....	....	2
In Vehicular Traffic	....	1	1	....	....	....	1	....	1	1	....	....	5
On Railways	....	....	....	....	....	....	....	....	....	....	....	....	....
On Ships, Boats, and Docks (excluding Drowning)	....	....	....	2	2	1	....	....	2	....	....	....	7
In Building Operations	....	....	....	....	....	....	....	....	....	....	....	....	....
By Machinery	....	....	....	1	1	....	1	....	1	....	....	....	4
By Weapons and Implements	....	....	....	....	....	....	....	....	....	....	....	....	....
Burns and Scalds	1	9	2	1	1	....	....	....	....	....	....	....	14
Poisons, Poisonous Vapours	....	....	....	....	....	....	....	....	....	....	....	....	....
Surgical Narcosis	....	....	....	....	....	....	....	....	....	....	....	....	....
Effects of Electric Shock	....	....	....	....	....	....	....	....	....	....	....	....	....
Corrosion by Chemicals	....	....	....	....	....	....	....	....	....	....	....	....	....
Drowning	....	....	....	1	....	....	....	....	1	....	....	....	2
Suffocation, Overlaid in Bed	13	....	....	....	....	....	....	....	....	....	....	....	13
Suffocation, otherwise	....	....	....	1	....	2	....	1	....	....	....	....	4
Falls, not specified	....	....	3	....	1	1	1	1	3	3	....	....	13
Weather Agencies	....	....	....	....	....	2	....	....	....	....	....	....	2
Otherwise, and not stated	1	1	3	....	....	....	....	3	1	....	....	....	9
Found Drowned	....	....	....	1	2	1	2	2	....	....	....	....	8
Homicide	1	....	....	....	2	1	....	....	..	....	....	....	4
Suicides—													
By Poison	....	....	....	..	....	....	2	....	....	....	....	....	2
By Asphixia	....	....	....	....	....	....	....	1	....	....	....	....	1
By Hanging and Strangulation	....	....	....	....	....	2	1	2	3	....	....	....	8
By Drowning	....	....	....	....	1	1	....	1	....	....	....	....	3
By Shooting	....	....	....	....	....	1	....	....	....	....	....	....	1
By Cut or Stab	....	....	....	1	1	1	1	....	....	....	....	....	4
By Precipitation from Elevated Places	....	....	....	....	....	1	1	....	....	....	....	....	2
By Crushing	....	....	....	....	....	....	....	....	....	....	....	....	....
By other and Unspecified Methods	....	....	....	....	....	....	....	....	....	....	....	....	....
Execution	....	....	....	....	....	....	....	....	..	....	....	....	....
Sudden Death (Cause not Ascertained)	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Ill-defined and not Specified Causes	....	1	....	2	....	1	....	2	1	....	....	....	7
TOTALS	650	465	141	112	133	177	203	301	360	184	36	1	2763

TABLE VIA.

SHOWING THE DEATHS FROM ALL CAUSES REGISTERED IN EACH DISTRICT, 1909.

CAUSES OF DEATH.	Sunderland East.				Sunderland West.				Sunderland North.				Totals
	Under 1.	1 to 5.	Over 5.	Total.	Under 1.	1 to 5.	Over 5.	Total.	Under 1.	1 to 5.	Over 5.	Total.	
Smallpox—Vaccinated	....	....	....	....	....	....	....	....	....	....	....	....	....
Smallpox—Unvaccinated	....	....	....	....	....	....	....	....	....	....	....	....	....
Smallpox—No Statement	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	14	46	5	65	8	49	1	58	8	30	5	43	166
Scarlet Fever	....	6	2	8	....	2	1	3	....	1	4	5	16
Typhus Fever	....	....	....	....	....	..	....	....	....	....	....	....	....
Epidemic Influenza	....	....	6	6	....	....	7	7	....	....	3	3	16
Whooping Cough	4	10	1	15	2	7	1	10	5	8	....	13	38
Diphtheria, Membranous Croup	2	8	2	12	1	6	4	11	....	5	4	9	32
Enteric Fever	....	1	3	4	....	....	6	6	....	....	4	4	14
Asiatic Cholera	....	....	....	....	....	....	....	....	....	....	....	....	....
Diarrhœa, Dysentery	14	5	2	21	10	5	1	16	9	3	....	12	49
Epidemic or Zymotic Enteritis	....	....	....	....	1	....	....	1	2	1	....	3	4
Other Allied Diseases	....	....	....	....	....	....	....	....	....	....	1	1	1
Hydrophobia	....	....	....	....	....	....	....	....	....	....	....	....	....
Glanders, Farcy	....	....	....	....	....	....	....	....	....	....	....	....	....
Tetanus	....	....	....	....	....	....	....	....	....	....	....	....	....
Anthrax, Splenic Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Cowpox, Accidents of Vaccination	..	....	....	....	....	....	....	....	....	....	....	....	....
Syphilis	3	1	2	6	1	....	....	1	....	....	....	....	7
Gonnorrhœa	..	....	....	....	....	....	....	....	....	....	....	....	....
Phagedœna	....	....	....	....	....	1	....	1	....	....	....	....	1
Erysipelas	1	....	3	4	1	....	....	1	....	....	2	2	7
Puerperal Fever	....	....	1	1	....	....	1	1	....	....	1	1	3
Pyæmia, Septicæmia	....	....	....	....	....	....	2	2	....	....	....	....	2
Infective Endocarditis	....	....	1	1	....	....	....	....	....	....	....	....	1
Other Allied diseases	....	..	....	....	....	....	....	....	....	....	....	....	....
Malarial Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Rheumatic Fever	....	....	4	4	....	....	2	2	....	....	....	....	6
Rheumatism of the Heart	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculosis of Brain or Meninges, Acute Hydrocephalus	....	1	4	5	4	4	7	15	....	5	4	9	29
Tuberculosis of Larynx	....	....	....	....	....	..	....	....	....	....	....	....	....
Tuberculosis of Lungs	....	3	78	81	....	4	54	58	1	1	42	45	184
Tuberculosis of Intestines, Tabes Mesenterica	2	4	3	9	1	8	1	10	....	6	2	8	27
General Tuberculosis, Tubercular Disease of Undefined Position	....	5	7	12	6	5	6	17	....	....	4	4	33
Other Forms of Tuberculosis, Scrofula	....	....	2	2	....	1	1	2	....	1	3	4	8
Other Infective Diseases	....	....	..	....	....	....	....	..	....	....	....	....	....
Thrush	....	....	....	....	....	....	....	....	....	....	....	....	....
Actinomycosis	....	....	....	....	....	....	....	....	....	....	....	....	....
Hydatid Diseases	....	....	....	....	..	....	....	....	....	....	....	....	....
Scurvy	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Diseases due to Altered Food	....	....	....	....	....	....	....	....	....	....	....	....	....
Acute Alcoholism, Delirium Tremens	....	....	2	2	....	....	....	....	..	....	....	....	2
Chronic Alcoholism	....	....	1	1	....	....	1	1	....	....	....	....	2
Chronic Industrial Poisoning	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Chronic Poisonings	....	....	....	....	....	....	....	....	..	....	....	....	....
Osteo-arthritis, Rheumatoid Arthritis	....	....	....	....	....	....	2	2	....	....	....	....	2
Gout	....	....	....	....	....	....	....	....	....	....	....	....	....
Cancer	....	..	48	48	....	....	46	46	....	....	23	23	117
Diabetes Mellitus	....	1	....	1	....	....	9	9	....	....	2	2	12
Purpura Hæmorrhagica	....	....	..	....	....	....	....	....	....	....	....	....	....
Hæmophilia	....	....	....	....	..	....	....	....	....	....	....	..	....
Anæmia, Leucocythæmia	....	....	3	3	..	....	7	7	....	....	5	5	15
Lymphadenoma, Hodgkin's Disease	....	....	....	....	....	....	....	....	....	....	1	1	1

TABLE VIa.—Continued.

CAUSES OF DEATH.	Sunderland East.				Sunderland West.				Sunderland North.				Totals.
	Under 1.	1 to 5.	Over 5.	Total.	Under 1.	1 to 5.	Over 5.	Total.	Under 1.	1 to 5.	Over 5.	Total.	
Myxœdema	....	....	1	1	....	....	1	1	....	....	....	....	2
Exophthalmic Goitre	....	....	....	....	....	....	....	....	....	....	1	1	1
Premature Birth	38	....	....	38	38	....	....	38	19	....	....	19	95
Injury at Birth	2	....	....	2	2	....	....	2	2	....	....	2	6
Debility at Birth	29	....	....	29	31	....	....	31	15	....	....	15	75
Atelectasis	....	....	....	....	6	....	....	6	4	....	....	4	10
Congenital Defects	6	1	....	7	9	1	....	10	2	....	....	2	19
Want of Breast Milk	1	....	....	1	....	....	....	....	....	....	....	....	1
Atrophy, Debility, Marasmus	27	5	....	32	26	7	....	33	35	4	....	39	104
Dentition	3	2	....	5	1	3	....	4	1	....	....	1	10
Rickets	1	....	....	1	....	1	....	1	1	3	....	4	6
Old Age, Senile Decay	....	....	72	72	....	....	40	40	....	....	32	32	144
Convulsions	28	4	....	32	12	2	....	14	9	2	....	11	57
Meningitis	6	14	7	27	2	2	7	11	3	2	4	9	47
Encephalitis	....	....	....	....	....	....	....	....	....	....	....	....	....
Apoplexy	....	....	39	39	....	....	58	58	....	....	30	30	127
Softening of the Brain	....	....	1	1	....	....	....	....	....	....	1	1	2
Hemiplegia, Brain Paralysis	....	....	8	8	....	....	4	4	....	....	2	2	14
General Paralysis of the Insane	....	....	6	6	....	....	4	4	....	....	....	....	10
Other Forms of Insanity	....	....	8	8	....	....	5	5	....	....	2	2	15
Chorea	....	....	....	....	....	....	1	1	....	....	1	1	2
Cerebral Tumour	....	....	....	....	....	....	....	....	....	....	....	....	....
Epilepsy	....	....	4	4	....	....	2	2	....	....	2	2	8
Laryngismus Stridulus	....	....	....	....	....	....	....	....	....	....	....	....	....
Locomotor Ataxy	....	....	1	1	....	....	1	1	....	....	....	....	2
Paraplegia, Diseases of Spinal Cord	....	....	4	4	....	....	5	5	....	....	....	....	9
Other and Ill-defined Diseases of Brain or Nervous System	....	....	3	3	1	....	6	7	1	....	....	1	11
Otitis, Otorrhœa	....	1	1	2	2	....	3	5	....	....	1	1	8
Diseases of Nose, Epistaxis	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of Eye	....	....	....	....	....	....	....	....	1	....	....	1	1
Endocarditis, Valvular Diseases of Heart	....	....	15	15	....	....	32	32	....	....	10	10	57
Pericarditis	....	....	....	....	....	....	1	1	....	....	....	....	1
Hypertrophy of Heart	....	....	....	....	....	....	....	....	....	....	....	....	....
Angina Pectoris	....	....	2	2	....	....	2	2	....	....	2	2	6
Aneurism	....	....	3	3	....	....	4	4	....	....	....	....	7
Senile Gangrene	....	....	2	2	....	....	1	1	....	....	....	....	3
Embolism, Thrombosis	....	....	4	4	..	....	6	6	....	....	....	....	10
Phlebitis	....	....	....	....	....	....	1	1	....	....	....	....	1
Varicose Veins	....	....	....	....	....	....	....	....	....	....	....	....	....
Other and Ill-defined Diseases of Heart and Circulatory System	....	....	64	64	....	....	67	67	....	....	30	30	161
Laryngitis	1	2	....	3	..	2	....	2	....	1	1	2	7
Croup	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Diseases of Larynx and Trachea	....	....	....	....	....	1	....	1	....	....	....	....	1
Acute Bronchitis	51	32	53	136	26	12	39	77	19	10	17	46	257
Chronic Bronchitis	....	....	25	25	....	....	25	25	....	....	12	12	62
Lobar Croupous Pneumonia	....	....	3	3	....	....	12	12	....	1	6	7	22
Lobular Broncho-Pneumonia	11	12	4	27	7	19	6	32	10	13	6	29	88
Pneumonia, form not stated	3	13	38	54	9	15	41	65	3	6	17	26	145
Emphysema, Asthma	....	....	4	4	....	....	1	1	1	....	2	3	8
Pleurisy	....	1	3	4	....	1	3	4	....	....	1	1	9
Other and Ill-defined Diseases of the Respiratory System	....	....	....	....	....	....	2	2	....	....	1	1	3
Diseases of Mouth and Annexa	....	1	....	1	....	....	1	1	....	....	1	1	3
Diseases of Pharynx	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of Œsophagus	....	....	....	....	....	....	....	....	....	....	1	1	1
Ulcer of Stomach and Duodenum	....	....	3	3	....	....	5	5	....	....	4	4	12
Other Diseases of Stomach	12	4	7	23	1	....	2	3	....	....	2	2	28
Enteritis	2	1	....	3	2	....	1	3	3	1	3	7	13
Appendicitis	....	....	1	1	....	....	7	7	....	....	3	3	11
Obstruction of Intestine	....	....	8	8	2	1	8	11	1	....	2	3	22
Other Diseases of Intestine	....	....	2	2	....	....	3	3	1	....	....	1	6
Cirrhosis of Liver	....	....	6	6	....	....	6	6	....	....	3	3	15
Other Diseases of Liver	....	....	3	3	....	....	3	3	1	....	3	4	10
Peritonitis	....	....	2	2	....	....	3	3	..	....	1	1	6
Other and Ill-defined Diseases of Digestive System	....	....	....	....	....	....	....	....	....	....	....	....	....

TABLE VIa.—Continued.

CAUSES OF DEATH.	Sunderland East.				Sunderland West.				Sunderland North				Total
	Under 1.	1 to 5.	Over 5.	Total.	Under 1.	1 to 5.	Over 5.	Total.	Under 1.	1 to 5.	Over 5.	Total.	
Diseases of Lymphatic System and Ductless Glands	....	....	1	1	1	....	....	1	....	....	1	1	3
Acute Nephritis	....	1	4	5	....	....	6	6	....	....	3	3	14
Bright's Disease	....	....	11	11	....	....	10	10	....	2	15	17	38
Calculus	....	....	....	....	....	....	....	....	....	....	....	....	....
Disease of Bladder and Prostate	....	....	3	3	....	....	3	3	....	....	1	1	7
Other and Ill-defined Diseases of the Urinary System	....	....	....	....	....	....	1	1	....	....	....	....	1
Diseases of Testis and Penis	....	....	1	1	....	....	....	....	....	....	....	....	1
Diseases of Ovaries	....	....	....	....	....	....	....	....	....	....	1	1	1
Diseases of Uterus and Appendages	....	....	....	....	....	....	2	2	....	....	....	....	2
Diseases of Vagina and External Genital Organs	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of Breast	....	....	....	....	....	....	....	....	....	....	....	....	....
Abortion, Miscarriage	....	....	....	....	....	....	....	....	....	....	....	....	....
Puerperal Mania	....	....	....	....	....	....	....	....	....	....	....	....	....
Puerperal Convulsions	....	....	2	2	....	....	1	1	....	....	....	....	3
Placenta Prævia, Flooding	....	....	1	1	....	....	1	1	....	....	....	....	2
Puerperal Thrombosis	....	....	1	1	....	....	....	....	....	....	1	1	2
Other and Ill-defined Accidents and Diseases of Pregnancy & Child Birth	....	....	1	1	....	....	2	2	....	....	1	1	4
Arthritis, Ostitis, Periostitis	....	....	....	....	....	....	1	1	....	....	....	....	1
Other and Ill-defined Diseases of the Osseous System	....	1	1	2	....	....	2	2	....	....	....	....	4
Ulcer, Bedsore	....	....	....	....	....	....	....	....	....	....	....	....	....
Eczema	....	....	....	....	....	....	....	....	....	....	....	....	....
Pemphigus	....	....	....	....	1	....	....	1	....	....	....	....	1
Other and Ill-defined Diseases of Integumentary System	1	....	2	3	....	1	....	1	1	1	....	2	6
Accident or Negligence—													
In Mines and Quarries	....	....	....	....	....	....	....	....	....	....	2	2	2
In Vehicular Traffic	....	1	1	2	....	....	2	2	....	....	1	1	5
On Railways	....	....	....	....	....	....	....	....	....	....	....	..	....
On Ships, Boats, and Docks (excluding Drowning)	....	....	3	3	....	....	3	3	....	....	1	1	7
In Building Operations	....	....	....	....	....	....	....	....	....	....	....	....	....
By Machinery	....	....	1	1	....	....	3	3	....	....	....	....	4
By Weapons and Implements	....	....	....	....	....	....	....	....	....	....	....	....	....
Burns and Scalds	1	3	3	7	....	5	....	5	....	1	1	2	14
Poisons, Poisonous Vapours	..	....	....	....	....	....	....	....	....	....	....	....	....
Surgical Narcosis	....	....	....	..	....	....	....	....	....	....	....	....	....
Effects of Electric Shock	....	....	....	....	....	....	....	....	....	....	....	....	....
Corrosion by Chemicals	....	....	....	....	....	....	....	....	....	....	....	....	....
Drowning	....	....	2	2	....	....	....	....	....	....	....	....	2
Suffocation, Overlaid in Bed	3	....	....	3	7	....	....	7	3	....	....	3	13
Suffocation, otherwise	....	....	1	1	....	....	3	3	....	....	....	....	4
Falls, not Specified	....	....	5	5	....	....	4	4	....	....	4	4	13
Weather Agencies	....	....	....	....	....	....	1	1	....	....	1	1	2
Otherwise, and not stated	....	....	2	2	1	1	5	7	....	....	....	....	9
Found Drowned	....	....	7	7	....	....	....	....	....	....	1	1	8
Homicide	1	....	2	3	....	....	....	....	....	....	1	1	4
Suicides—													
By Poison	....	....	....	....	....	....	2	2	....	....	....	....	2
By Asphixia	....	....	1	1	....	....	....	....	....	....	....	....	1
By Hanging and Strangulation	....	....	3	3	....	....	4	4	....	....	1	1	8
By Drowning	....	....	2	2	....	....	....	....	....	....	1	1	3
By Shooting	....	....	....	....	....	....	1	1	....	....	....	....	1
By Cut or Stab	....	....	2	2	....	....	1	1	....	....	1	1	4
By Precipitation from Elevated Places	....	....	1	1	....	....	1	1	....	....	..	....	2
By Other and Unspecified Methods	....	....	....	....	....	....	....	....	....	....	....	....	....
Execution	....	....	....	....	....	....	....	....	....	....	....	....	....
Sudden Death (Cause not Ascertained)	....	..	....	....	....	....	....	....	....	....	....	....	....
Other Ill-defined and not specified causes	....	1	1	2	....	....	3	3	....	....	2	2	7
TOTALS	267	191	652	1110	222	166	641	1029	161	108	355	624	2763

TABLE VII.

STREETS in which ZYMOTIC DISEASES were known to have occurred in the Year 1909.

SUNDERLAND EAST.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Addison street	...	...	...	...	2	..	1	...	...	...	...
Addison street East	...	...	...	...	...	1	...	...	1	...	...
Amberley street	...	...	...	...	3	1	2	...	...	...	...
Ann street	...	...	...	...	1	1	...	1	...	...	...
Arnott street	...	...	...	...	3	...	3	1	...	...	...
Athol road	...	...	...	...	1	...	1	...	...	...	...
Aubrey terrace	...	...	...	...	1	...	..	...	..	...	...
Avon street	...	...	...	...	1	...	1	...	...	...	...
Barrack street	...	...	...	...	...	1	...	...	...	...	...
Barracks, The	...	..	...	...	1	...	1	...	...	...	...
Bishopton street	...	...	...	...	1	..	...	...	...	...	...
Borough road	...	...	...	...	1	...	1	...	...	...	...
Bramwell street	...	...	...	...	2	4	...	1	..	...	...
Buddle terrace	...	...	...	...	1	...	...	...	..	...	...
Burleigh street	...	...	...	...	...	2	...	...	...	...	2
Burlington road	...	...	...	...	2	...	2	...	1	...	...
Cairo street	...	...	...	...	13	4	2	...	...	...	...
Canon Cockin street	...	...	...	...	16	..	7	...	..	...	...
Carr's yard	...	...	...	...	...	...	...	...	1	...	...
Charles street	...	3	...	...	...	...	3	..	...	...	1
Chipchase street	...	..	...	...	...	...	...	...	1	...	...
Christopher street	...	...	...	...	1	2	...	2	...	...	...
Church street East	...	1	...	...	...	...	1	...	1	1	...
Clementina street	...	...	..	...	1	...	1	...	...	...	...
Cliff terrace	...	...	...	...	...	...	...	...	1	...	...
Coronation street	...	...	...	...	1	...	1	1	1	...	...
Corporation road	...	...	...	...	1	...	...	...	...	...	...
Cousin street	...	2	...	...	1	1	3	...	...	...	...
Covent Garden street	...	..	...	...	1	...	...	1	...	...	...
Coxon street	...	...	...	...	1	...	1	...	...	...	..
Curtain yard	...	...	...	...	...	...	...	...	...	...	1
D'Arcy street	...	...	...	...	1	...	1	...	1	...	...
D'Arcy terrace	...	...	...	...	...	...	...	...	1	...	...
East Cross street	...	1	...	...	...	...	1	...	2	..	...
East Hendon road	...	...	..	...	1	...	...	...	...	...	...
East street	...	...	...	...	1	...	1	...	...	...	...
Emma street	...	...	...	...	...	1	...	1	...	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Ernest street	...	...	...	...	1	...	1	...	...	..	...
Ethel street	...	...	...	...	1	...	1	...	...	...	...
Ettrick place	...	2	...	...	...	...	2	...	...	...	...
Ferguson street	...	...	...	...	1	...	1	...	...	...	...
Flag lane	...	1	...	...	...	...	...	..	..	...	1
Fleet street	...	1	...	...	...	...	1	...	...	...	...
Ford street	...	...	...	...	1	...	1	...	...	1	...
Frederick street	...	...	...	...	1	...	1	...	...	...	...
Fuller road	.	...	...	...	6	1	4	...	...	...	...
Garden street	...	...	...	...	...	...	...	...	1	...	...
George street East	..	...	...	...	...	...	...	...	1	...	...
Grange street South	...	1	...	...	...	...	...	...	...	...	...
Guildford street	...	...	...	...	...	2	...	...	...	...	...
Harrison buildings	...	...	...	...	...	1	...	1	1	...	...
Harrogate street	..	...	...	..	5	...	..	...	2	..	...
Hartley street	...	...	...	...	...	...	...	...	...	1	...
Hastings street	...	...	...	...	8	1	4	1	...	...	...
Havelock street	...	...	...	...	...	...	...	...	2	...	...
Hedworth street	...	3	...	..	...	1	4	...	...	...	...
Hedworth terrace	...	...	...	...	1	...	1	...	...	...	..
Hendon Burn avenue	...	...	...	...	2	...	...	...	...	...	...
Hendon road	...	...	...	..	1	...	...	...	2	...	...
Hendon street	...	...	...	...	3	1	3	...	1	...	1
Henry street East	...	...	...	...	1	1	...	1	1	...	...
Herrington street	...	...	...	...	2	...	2	...	...	...	...
High street East	...	...	...	...	7	2	3	...	2	...	...
Hill street	...	...	...	...	1	...	...	...	...	...	...
Hodgkin street	...	...	...	...	...	...	...	...	1	...	...
Howick street	...	...	...	...	4	...	4	...	...	...	...
Hudson buildings	...	...	...	...	...	...	...	...	1	..	...
Hyde street	...	...	...	...	...	1	...	...	...	...	...
Kensington terrace	...	...	...	...	1	...	...	..	...	...	..
Laura street	...	...	...	...	2	...	1	...	...	...	...
Lawrence street	...	...	...	...	1	1	1	...	1	...	1
Lilburne street	...	6	...	...	...	...	6	1	1	...	...
Lindsay road	...	...	...	...	1	..	...	1	...	...	...
Lombard street	...	1	...	...	...	...	1	...	1	...	2
Lucknow street	...	...	...	...	1	...	1	...	1	...	...
Mainsforth terrace	..	...	...	...	4	...	...	1	...	...	...
Mainsforth terrace West	...	1	...	...	4	2	1	1	..	...	...
Maling's rigg	...	...	...	...	...	...	...	...	...	...	2
Manila street	...	...	...	...	3	...	...	...	..	...	...
Marion street	...	1	...	...	1	...	2	...	...	...	...
Moorgate street	...	...	...	...	...	...	..	...	1	...	...
Moor street	...	...	...	...	...	..	...	...	1	...	1
Moor terrace	...	...	...	...	...	...	...	...	1	...	...
Mordey street	...	...	...	...	3	...	1	...	...	...	...
Mowbray road	...	...	...	...	1	...	...	...	...	...	...
Nelson street	...	...	...	...	...	...	...	...	1	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Nesham place	...	...	...	...	...	...	...	...	1	...	...
Nesham square	...	..	...	...	1	...	1	...	...	...	...
New Grey street..	...	12	...	...	3	...	14	1	3	...	...
Nile street	...	...	...	...	...	1	..	...	1	..	...
Noble street	...	...	...	...	4	...	3	..	...	...	...
Norman street	...	...	...	..	4	...	2	...	...	...	...
North Durham street	...	...	...	...	...	...	...	...	...	1	...
Northumberland place	...	...	...	...	...	...	...	...	2	...	1
Ocean road	..	...	...	...	...	1	...	...	...	...	...
Orphan Asylum	...	..	...	...	1	...	1	...	..	...	...
Outram street	...	...	...	...	...	...	..	...	...	...	2
Page street	...	1	...	...	3	1	2	1	...	3	...
Palin's passage	...	...	...	...	1	...	1	...	...	...	...
Parade	...	2	...	...	9	2	5	...	1	...	...
Park place East	...	..	..	...	...	1	...	...	...	...	..
Park terrace	..	...	...	...	...	1	...	1	...	...	...
Peel street	...	...	...	...	1	...	...	...	...	...	...
Pemberton street	...	...	...	...	...	...	...	...	2	...	...
Percy terrace	...	1	...	...	...	1	...	...	...	...	...
Prospect row	...	...	...	...	1	...	1	...	...	...	...
Queen street East	...	...	...	...	...	1	...	1	...	...	..
Randolph street	...	...	...	...	1	...	...	...	...	...	...
Regent terrace	...	..	...	...	1	1	...	...	...	...	...
Ridley terrace	...	...	...	...	1	.	1	...	...	...	...
Robinson street	...	...	...	...	1	...	...	...	...	...	...
Robinson terrace	...	...	...	...	3	1	1	...	...	...	1
Rock terrace	...	...	...	...	...	1	...	...	...	...	..
Rosalie terrace	...	1	...	...	4	...	5	...	.	...	...
Rowlandson terrace	...	...	...	...	...	1	...	...	..	...	...
St. Alban's street	...	...	...	...	4	...	...	...	...	...	...
St. Bede's terrace	...	...	...	...	1	...	...	...	...	...	...
St. Leonard's street	...	1	...	...	6	5	4	...	...	...	...
St. Vincent street	...	...	...	...	..	1	...	...	...	...	...
Sans street	...	...	...	...	...	1	...	...	...	...	...
Short street	...	...	...	...	...	1	...	...	1	...	...
Silver street	...	...	...	...	1	...	1	...	...	..	1
South Durham street	...	...	...	...	4	...	3	1	4	...	...
South Moor street	...	...	...	...	...	1	...	...	..	...	...
Spelter Works road	...	...	...	...	1	...	1	...	...	2	...
Spring Garden lane	...	...	...	...	...	1	...	...	1	...	...
Stafford street	...	...	...	...	1	1	1	...	...	1	...
Suffolk street	...	...	...	...	3	...	...	...	...	...	...
Surtees street	...	...	...	...	3	...	3	...	...	...	...
Sussex street	...	...	...	...	...	...	...	...	...	1	...
Tavistock place	...	...	...	...	1	1	...	...	..	...	...
Tees street	...	1	...	...	...	...	1	...	...	...	1
Tel-el-Kebir road	...	...	...	...	1	...	...	...	...	...	...
Thomas street	...	...	...	...	...	...	...	...	1	...	...
Thompson street	...	...	...	...	1	..	1	...	1	...	..
Tower street	...	...	...	...	...	...	...	...	1	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from.		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Tower street West.....	...	...	...	...	1	..	1	..	...	...	...
Trinity place	...	...	...	...	1	...	1	...	...	...	...
Tweed street	...	...	..	...	...	...	...	...	1	..	...
Tyne street	...	...	..	...	1	1	1	1	...	1	...
Upper Sans street	...	...	...	...	1	...	1	...	1	1	...
Vane terrace	...	...	...	...	...	...	.	...	1	...	...
Villette road	..	...	...	...	3	...	...	...	...	...	...
Villiers street	...	...	...	...	3	...	2	...	2	...	1
Vine street	...	...	...	...	2	1	2	...	2	1	...
Ward street..... ...	...	1	...	...	7	...	6	1	...	1	...
Wear street.....	...	...	...	...	..	...	...	...	2	..	...
West Sunniside	...	..	...	...	1	...	1	...	...	...	...
West Wear street	...	...	...	...	1	1	1	1	...	...	..
White House place	...	..	...	..	1	1	...	1	...	...	..
Windsor terrace	...	1	...	...	...	...	1	1	..	...	1
Woodbine street..	...	1	..	.	1	...	2	...	1	...	...
Woodbine street East ...	...	...	...	...	...	1	...	...	...	...	...
Woodbine terrace	...	...	...	...	...	...	...	...	1	...	...
Zion street	...	1	...	...	...	...	1	...	1	...	...

TABLE VII.—Continued.

SUNDERLAND WEST.

Street.	Cases Notified.						Removed to Saratorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Abingdon street	...	...	...	...	...	1	...	...	...	...	...
Ailesbury street	...	...	...	...	2	...	..	...	...	...	...
Aiskell street	...	...	...	...	1	1	1	2	...		...
Alderson street	...	...	...	...	1	...	...	...	...	...	...
Alfred street	...	...	..	...	1	...	..	...	...	...	...
Allonby street	...	...	...	..	...	...	..	...	2	...	...
Ancona street ..	...	...	...	...	6	...	2	...	...	...	1
Anne stteet	...	...	...	...	...	1	...	...	...	...	1
Armitage street	...	...	...	...	1	...	...	...	...	...	...
Ashmore street	...	...	...	...	1	...	...	...	...	...	...
Ashwood street	..	...	.	...	...	1	...	...	...	...	...
Australia street	...	...	...	...	1	...	1	...	...	...	...
Avenue, The	...	1	...	...	...	...	...	...	...	...	...
Avenue terrace	...	...	...	...	1	...	...	...	2	...	...
Aylmer street	...	...	...	...	1	...	1	...	...	...	...
Azalea terrace North	...	...	...	...	...	1	...	...	...	...	...
Barnard street	...	...	...	...	1	...	1	...	...	...	...
Beach street	...	...	...	...	1	...	...	...	...	...	...
Belford road	...	...	...	...	1	1	...	...	...	...	...
Belle Vue crescent	...	...	...	...	...	1	...	...	...	...	...
Belle Vue park	...	...	...	...	1	...	...	...	...	...	...
Belle Vue road	...	...	...	...	1	...	1	...	...	...	...
Bennett street	...	..	...	...	1	...	1	...	1	...	...
Bexley street	...	...	...	...	3	...	2	...	...	...	...
Biss street	...	...	...	...	...	..	...	...	1	...	...
Booth street	...	...	...	...	1	...	1	...	...	..	...
Boughton street	...	...	...	...	1	...	1	...	...	...	...
Brinkburn street ..	...	...	...	...	1	...	...	...	...	..	...
Brougham street	...	...	...	..	...	...	...	...	1	...	...
Burnaby street	..	...	..	...	1	1	...	...	...	...	...
Carlyon street	...	...	...	...	1	...	1	...	...	...	...
Carol street	...	...	...	...	3	...	2	...	...	...	...
Carter street	...	...	...	...	1	...	1	...	...	...	...
Catherine street	...	...	...	...	1	...	1	...	1	...	...
Cecil street	...	...	...	...	1	...	...	...	1	...	...
Cedars park	...	...	...	...	...	1	...	...	...	...	...
Central Fire station	..	...	...	...	1	...	...	...	...	...	1
Chester crescent	...	...	...	...	1	...	1	...	...	...	...
Chester oval	...	...	...	...	1	...	1	...	...	...	...
Chester road	...	...	...	...	4	5	3	...	...	...	...
Chester street	...	...	...	...	1	.	...	...	...	...	...
Chester street East	...	...	...	...	...	1	...	...	...	...	...
Chester terrace	...	...	...	...	2	...	1	...	...	...	...
Chester terrace North	...	...	...	...	1	...	...	...	...	...	...
Church street West	...	...	...	...	...	...	...	...	1	...	1
Cirencester street	...	...	...	...	2	...	1	...	...	...	...
Clanny street	...	1	...	...	2	...	3	...	...	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Clazey terrace	...	...	...	...	...	1	...	...	...	...	...
Cleveland road	...	...	...	...	8	4	...	...	...	...	...
Close street	...	...	...	...	1	...	...	...	...	...	...
Coatsworth street	...	...	...	...	...	1	...	...	...	..	...
Co-operative terrace	...	...	...	...	1	...	1	...	...	..	...
Cornwall street	...	1	...	...	...	...	1	...	...	...	...
Crescent row	...	...	...	...	5	...	4	...	1	3	1
Croft avenue	...	1	...	...	3	...	2	1	...	...	...
Cromwell street	...	...	...	...	5	...	4	...	...	...	...
Cross Farrington row	...	...	...	...	...	...	...	...	1	...	...
Cross Green street	...	1	...	...	...	...	1	...	...	...	...
Crowtree terrace	...	1	...	...	...	...	1	1	...	...	...
Dene street	...	..	...	...	2	1	...	...	...	...	...
Deptford road	...	...	...	...	2	1	..	...	...	...	...
Deptford terrace	..	...	...	...	4	...	4	...	1	...	...
Derby street	...	..	...	...	...	1	...	...	...	...	...
Derwent street	...	...	...	...	2	...	1	...	...	...	...
Dock terrace	...	...	...	...	...	...	...	...	1	...	...
Dove street	...	...	...	...	1	...	...	...	1	...	...
Dryborough street	...	...	...	...	1	...	1	...	...	...	...
Dunbar street	...	...	...	...	1	1	...	...	...	..	...
Duncan street	..	...	...	...	...	...	...	...	1	...	...
East Cleft road	...	...	...	...	1	1	...	...	...	...	...
East Moor road	...	...	...	...	1	...	...	...	...	...	...
Eden Vale	...	...	...	...	1	...	1	...	...	...	...
Eldon street	...	...	...	...	1	2	1	...	...	...	...
Elgin street	...	...	...	..	1	1	1	...	...	...	...
Elwin terrace	...	...	...	...	1	...	...	...	...	...	...
Erith terrace	...	...	..	...	1	..	...	...	...	...	...
Esplanade, The	...	...	..	...	...	1	...	...	...	...	...
Ewesley road	...	...	...	...	4	...	...	..	...	...	1
Exeter street	...	..	...	...	...	1	...	1	...	...	...
Exhibition terrace	...	...	...	...	...	2	...	...	1	...	...
Farnham terrace	...	..	...	...	1	...	1	...	...	...	...
Farrington row	...	1	...	...	...	1	1	1	...	...	...
Fern street	...	...	...	...	1	...	...	...	...	...	...
Florida street	...	1	...	...	...	1	...	...	...	...	...
Fordland place	...	...	...	...	1	1	1	...	...	...	...
Fox street	...	...	...	...	2	2	...	...	...	...	...
Franklin street	...	...	...	...	1	...	...	...	...	...	...
Frederick terrace	...	...	...	...	2	...	...	...	...	...	...
Garden place	...	1	...	...	...	...	1	1	...	...	...
General Graham street	...	..	...	...	2	4	...	...	...	...	...
Gerald street	...	...	...	...	...	1	...	...	...	...	...
Gill Bridge avenue	...	...	...	...	...	..	...	...	...	...	1
Gilsland street South	...	...	...	...	1	...	...	...	...	...	...
Glebe street	...	...	...	...	...	1	...	1	...	...	...
Grafton street	...	...	...	...	2	...	2	...	..	...	...
Grange terrace	...	...	...	...	1	...	...	...	...	...	...
Grange road	...	...	...	...	1	...	1	...	...	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Green, The	...	...	...	...	...	1	..	...	...	...	...
Green terrace	...	1	...	...	...	...	1	1	1	...	..
Greta terrace	..	...	...	...	4	...	...	...	...	...	...
Grindon terrace	...	...	...	...	2	...	...	...	..	...	1
Guisborough street	...	...	...	...	2	...	2	...	...	...	...
Hadrian street	...	..	...	...	3	...	1	...	...	...	..
Hanover place	...	...	...	...	..	...	...	...	1	...	3
Harlow street	...	...	...	...	1	1	1	...	...	...	...
Harrison street	...	...	...	...	...	...	...	...	2	...	...
Hawarden crescent	...	...	...	...	2	..	1	...	...	...	..
Hawthorn street	...	...	...	...	4	...	3	...	...	...	...
Hawthorn street South	...	...	...	...	...	2	...	1	...	...	...
Hedley street	...	..	...	...	...	...	...	..	1	...	1
Henderson road	...	...	...	...	...	1	...	...	...	...	...
High Barnes terrace	...	...	...	...	1	...	..	...	...	...	...
Hillfield	...	...	...	...	..	1	...	...	...	..	...
Holly terrace	...	..	...	...	3	...	3	...	..	...	..
Homeland park North	...	..	...	...	...	1	...	...	...	...	...
Hope street	...	1	...	...	..	...	1	...	...	...	...
Hopper street	..	...	...	...	1	...	1	...	1	1	...
Houghton street	...	...	...	...	4	1	3	...	...	...	...
Howarth street South	...	...	...	...	2	...	2	...	..	...	...
Hutton street	...	...	...	..	1	...	..	...	...	...	...
Hylton road	...	...	...	...	4	...	3	...	...	...	..
Hylton street	...	...	...	..	2	1	1	..	...	...	...
Infirmary, The	...	9	...	...	2	...	1	...	...	...	...
Jackson street	...	...	..	...	1	...	1	...	...	...	...
James street	...	..	..	...	..	...	...	...	1	...	1
Johnson street	...	...	...	...	...	1	...	...	...	1	...
John street West	..	...	...	...	..	...	...	...	3	...	...
Kayll road	...	...	...	...	1	...	...	...	...	...	...
Kendal street	...	1	...	...	...	...	1	...	...	...	.
King's place	...	...	..	...	1	...	1	...	...	...	..
King's road	...	...	...	...	1	...	...	...	...	...	..
King street	...	...	...	...	...	...	..	...	1	...	1
Kitchener street	...	...	...	...	2	3	1	...	...	...	..
Lime street	...	...	...	...	4	...	4	...	...	...	..
Lisburn terrace	...	...	..	...	...	...	...	...	1	...	...
Lorne terrace	...	...	...	...	2	...	2	...	...	...	...
Lumley street	...	...	...	...	1	1	1	..	..	...	...
Maritime terrace	...	...	...	...	1	...	1	...	...	..	...
Martin terrace	...	...	...	...	...	...	...	...	1	...	...
Marlborough street	...	...	...	...	1	...	...	...	...	...	...
Matamba terrace	...	...	...	..	...	1	..	...	...	...	...
Matlock street	...	...	...	...	...	...	...	...	1	...	...
May street	...	...	...	...	7	1	2	...	...	...	..
Merle terrace	...	...	...	..	...	1	..	...	...	...	...
Milburn street	...	...	...	...	4	...	1	...	1	...	...
Mill houses	...	...	...	...	1	...	...	...	...	...	..

TABLE VII.—Continued

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Mill street	...	1	..	...	1	...	1	...	1	...	...
Mortimer street	...	...	...	...	...	...	...	...	...	1	...
Mount pleasant	..	...	...	...	3	..	2	..	...	...	...
Mount road	..	..	...	...	4	1	...	...	...	...	...
Napier street	...	...	...	...	2	..	2	...	...	...	...
Neville street	...	...	...	...	1	...	...	...	...	...	...
Nora street	...	...	...	...	2	...	1	1	...	...	...
North Milburn street	..	...	...	...	2	3	2	...	...	...	...
North Ravensworth street	..	..	...	..	...	1	...	1	...	...	...
Northumberland street	...	1	...	...	1	...	2	...	2	...	1
Olive street	..	...	...	...	...	2	...	...	...	...	...
Ormonde street	...	...	...	...	1	1	...	...	1	...	...
Otto terrace	...	...	...	..	1	1	...	...	...	..	...
Oxford street	...	...	...	...	...	1	...	...	...	...	...
Palmer street	...	..	...	...	2	...	2	...	...	...	...
Paxton terrace	...	...	...	..	1	...	...	...	...	...	...
Peacock street	...	...	...	...	...	...	...	...	1	...	...
Peacock street West	...	1	...	...	...	...	1	...	2	...	...
Pensher street	...	...	...	...	6	...	5	...	...	...	...
Percival street	..	...	...	...	...	...	...	...	1	...	...
Picton street	..	...	...	...	2	..	1	...	...	...	...
Potts street	...	...	...	...	1	...	...	...	1	...	...
Princess street	...	...	...	...	1	...	...	..	...	...	...
Pine street	...	...	...	...	...	1	...	...	...	..	...
Queensberry street	...	...	...	...	...	1	...	...	...	...	...
Queen's crescent	...	...	...	...	6	...	1	...	...	...	...
Queen street West	...	...	...	...	...	1	...	1	...	...	...
Rainton street	...	...	...	...	2	...	...	...	...	...	...
Ravensworth street	...	1	...	...	...	3	...	1	...	1	...
Reynoldson street	...	...	...	..	4	...	4	...	...	...	...
Ropery road	...	...	...	..	..	...	...	...	1	...	...
Ropery yard	...	...	..	...	...	1	..	1	1	...	...
Rosanna street	...	...	...	...	...	...	...	...	1	...	...
Rosedale street	...	...	...	...	5	...	5	...	1	..	...
Rose street	...	1	...	...	...	1	1	1	...	...	...
Rosslyn street	...	...	...	...	...	1	...	...	...	...	...
Royalty, The	...	...	..	..	1	...	1	...	...	...	...
Rutland street	...	...	...	...	3	1	2	1	3	..	..
St. Cuthbert's terrace	...	...	...	...	...	2	...	1	...	...	...
St. Luke's road	...	1	...	...	4	...	3	...	1	...	1
St. Luke's terrace	...	...	...	...	1	...	1	...	...	...	...
St. Mark's road	...	...	.	...	2	2	2	...	...	...	...
St. Mark's street	...	...	...	..	4	...	4	...	...	...	...
Silksworth row	...	...	...	...	1	...	1	...	1	..	...
Simpson street	...	..	...	...	..	...	...	...	...	...	1
Sorley street	...	...	...	...	10	1	3	...	...	...	...
South Hill crescent	...	...	...	...	1	...	1	...	...	...	...
South Johnson street	...	...	...	...	...	2	...	...	1	...	...
Stanley street	...	...	...	...	...	...	...	...	1	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Stewart street	...	...	...	...	1	...	...	...	...	...	...
Stirling street	...	...	...	...	1	...	...	..	..	...	...
Summerhill East	...	.	...	...	1	...	1	...	...	...	...
Swinbank street	...	1	...	...	...	...	1	...	...	...	...
Sydenham terrace	...	...	...	...	..	2	...	...	...	...	...
Thelma street	...	...	..	...	2	2	2	...	...	...	...
Trewhitt's crescent	...	...	...	...	...	2	...	...	...	...	...
Trimdon street	...	...	...	...	2	2	2	...	...	...	...
Trimdon street West	...	...	...	...	2	...	2	...	...	...	...
Tunstall terrace	...	...	..	...	1	...	...	...	...	...	...
Tunstall vale	...	...	...	...	1	...	...	...	...	...	...
Valebrook avenue	..	. .	...	...	1	...	...	...	...	...	...
Violet street	..	. .	...	...	2	1	..	...	...	..	...
Walker street	...	...	...	..	...	...	..	...	1	...	...
Walworth street	...	...	...	...	...	1	..	...	...	..	1
Washington street	...	...	...	...	2	...	...	...	...	...	...
Waterworks road	...	1	...	...	1	...	1	1	...	...	...
Watson street	...	...	...	...	1	...	1	...	...	...	...
Waverley terrace	...	...	...	...	1	...	1	...	...	...	...
Wellington lane	...	...	...	...	...	...	..	...	2	1	...
Wellington road	...	...	...	..	1	1	1	...	...	...	...
Well street	...	...	...	..	1	..	...	...	...	...	...
Westbourne road	...	...	...	..	2	2	2	1	...	...	...
Westbury street	...	...	...	...	1	...	..	...	..	...	..
Western hill	...	...	...	...	1	...	...	...	..	...	...
Westlands, The	..	...	...	.	...	2	...	...	..	...	...
West street	...	...	...	...	1	...	1	...	...	...	...
Wharncliffe street	...	...	...	...	1	...	1	...	...	...	...
Williams street	...	...	...	...	2	2	1	...	3	1	...
Wolseley terrace	...	..	...	...	...	1	...	...	..	...	..
Woodbine terrace	...	...	...	...	...	1	...	...	...	...	...
Wycliffe road	...	...	...	...	1	..	1	...	...	...	...

TABLE VII.—Continued.

SUNDERLAND NORTH.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Albany street	...	...	...	...	...	...	..	...	2	...	...
Back Stables	...	...	...	...	..	...	...	...	1	...	...
Barclay street	...	2	...	...	1	1	2	1	...	...	...
Barrington street	...	...	...	...	...	1	...	...	...	...	...
Bede street	...	...	...	...	3	...	1	...	...	...	...
Bloomfield street	...	...	...	...	...	...	...	...	...	...	1
Bond street	...	...	...	...	3	1	...	...	...	...	...
Brandling street	...	...	...	...	2	..	2	...	2	...	...
Bright street	...	...	...	..	3	1	3	...	2	..	...
Brooke street	...	...	...	...	...	...	...	..	1	...	...
Byron street	...	2	...	...	...	...	2	1	...	...	...
Charles street North	...	1	...	...	3	...	3	1	...	...	...
Chilton street	.	...	...	...	2	1	...	...	1	...	..
Church street North	...	1	...	...	...	...	1	1	...	...	...
Coast Guard station	...	...	...	...	2	...	2	...	...	...	...
Colliery square	...	...	..	...	1	1	...	..	...	...	...
Cooper street	...	...	..	...	2	1	1	...	...	...	..
Dame Dorothy street	...	...	...	...	...	...	...	...	1	1	...
Devonshire street	...	...	...	...	3	2	2	...	...	..	1
Dinsdale road	...	1	...	...	...	...	1	...	...	...	...
Dock street	...	1	...	...	1	..	2	...	2	1	...
Dock street East	...	...	...	...	...	2	...	..	...	1	...
Dundas street	...	...	...	...	...	...	...	...	1	...	..
East Whickham street	...	...	...	...	2	1	...	...	...	...	...
Eglinton street	...	1	...	...	...	1	1	1	...	...	...
Ellerslie terrace	...	...	...	...	5	...	3	1	...	...	...
Empress street	...	...	...	...	...	1	...	...	...	...	...
Featherstone street	...	1	...	...	...	...	...	...	...	...	...
Finsbury street	...	1	...	...	...	...	1	...	1	...	...
Francis street	...	...	...	...	1	...	1	...	1	...	...
Fulwell road	...	...	...	...	2	...	1	...	1	...	...
Gillside grove	...	...	..	...	...	...	...	...	1	...	...
Gladstone street	...	...	..	...	3	2	2	...	1	2	...
Glenthorne road	...	...	...	...	...	2	...	1	...	...	...
Gosforth street	...	...	...	...	2	...	2	1	1	...	..
Hamilton street	...	...	...	...	...	...	...	...	2	...	...
Hardwicke street	...	...	...	...	...	...	...	...	2	1	...
Hartington street	...	...	...	...	1	1	...	...	...	...	...
Hedworth place	...	...	...	...	...	1	...	1	...	...	...
Hedworth street	...	...	...	...	1	..	1	...	2	...	1
Hood street	...	...	...	...	5	1	3	...	...	...	...
Horatio street	...	...	...	...	...	...	...	...	1	...	...
Howick place	...	...	...	...	2	...	2	...	...	...	1
Huddlestone street	...	1	...	...	...	...	1	...	...	...	...
Kingston terrace	...	...	...	..	1	..	...	...	...	...	...
Liddell terrace	...	1	...	...	...	...	1	...	...	...	...

TABLE VII.—Continued.

Street.	Cases Notified.						Removed to Sanatorium.	Deaths.	Deaths from		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.			Measles.	Whooping Cough.	Diarrhœa.
Long row	...	1	..	...	1	...	2	...	...	..	...
Millum place	...	...	...	...	...	...	...	...	...	1	...
Millum terrace	...	3	...	...	...	...	3	1	1	...	...
Neale street	...	...	...	...	1	...	...	...	...	...	...
Nelson square	...	1	...	...	...	...	1	...	..	...	...
Newcastle road	...	...	...	...	...	1	...	...	...	...	...
Normanby street	...	...	...	...	...	..	...	...	1	...	...
North Bridge street	...	...	...	...	...	.	...	...	...	1	...
North Eglinton street	...	...	...	...	3	1	..	1	...	...	...
Osborne street	...	...	...	...	2	1	2	...	...	...	...
Park gate	...	...	...	...	1	1	...	...	...	...	...
Pilgrim street	...	...	...	...	1	1	...	...	...	...	...
Rendlesham street	...	...	...	...	1	...	...	...	...	...	...
Roker avenue	...	...	...	...	1	7	1	2	...	...	2
Roker Baths road	...	...	...	...	1	3	...	1	...	...	...
Roker terrace	...	...	...	...	2	...	...	...	...	...	...
Rosebery street	...	...	...	...	2	...	...	...	1	...	...
Ross street	...	...	...	...	2	...	...	...	1	...	...
Rothsay street	...	...	...	...	2	...	1	...	1	...	...
Roxburgh street	...	...	..	...	2	...	1	...	...	...	..
St. Andrew's terrace	...	...	..	...	1	...	...	...	...	...	..
Sandringham road	..	...	..	...	...	1	...	...	...	...	...
Sandringham terrace	...	...	...	...	...	1	...	...	...	...	...
Sheepfolds	...	...	...	...	1	1	1	...	...	...	3
Society lane	...	...	...	...	1	...	1	...	...	...	1
Southwick road	...	...	...	...	1	2	...	...	...	...	...
Stansfield street	...	...	...	...	3	...	...	2	1	...	...
Thomas street North	...	..	...	...	...	...	...	...	...	1	...
Topliff row	...	...	...	...	...	...	...	...	..	..	1
Victoria terrace	...	...	...	...	2	2	2	...	...	...	...
Victor street	...	1	...	...	4	...	5	...	...	1	3
Wallace street	...	...	...	...	...	1	...	1	...	...	1
Wardell terrace	...	...	...	...	...	...	...	...	...	1	...
Warwick street	...	...	...	...	1	1	...	...	...	...	...
Wayman street	...	...	...	...	4	3	1	1	1	...	...
Westcott terrace	...	...	...	...	1	...	1	...	...	...	...
Whickham street	..	...	...	...	2	..	...	...	...	...	...
Whitburn street	...	...	...	...	...	...	...	...	1	1	...
Williamson street	...	...	...	...	...	...	...	...	...	...	1
Williamson terrace	...	1	...	...	...	...	1	...	...	1	..
Wilson street North	...	...	...	...	...	1	...	1	...	...	...
Wreath Quay road	...	...	...	...	...	2	...	...	...	...	...
Yorke street	...	...	..	...	...	...	...	...	1	...	...
Zetland street	...	...	...	...	...	...	...	...	5	...	...

TABLE VIII.

Showing the STATE of VACCINATION in the entire Districts of the Sunderland Union for the Year ending December, 1908, and for the Ten preceding Years

(AS FURNISHED BY THE VACCINATION OFFICERS.)

Year.	Births Registered.	Total Vaccinated.		Postponed by Medical Authority.	Died previous to Vaccination.	Removal to places unknown or other Unions.	Certificates of (Conscientious Objection) Exemption.
		Succ.	Insusceptible				
1898	6352	4355	27	161	974	835	
1899	6501	4706	34	173	924	629	
1900	6651	4770	18	280	909	625	49
1901	6622	4967	26	208	855	527	39
1902	6700	5008	30	160	747	715	40
1903	6743	5508	22	102	802	267	42
1904	6737	5551	28	93	834	189	32
1905	6784	5725	26	82	730	163	53
1906	6996	5831	97	97	767	195	66
1907	6913	5613	35	94	709	287	175
Average for 10 Years, 1898-07.	6700	5203	34	145	825	443	...
1908	6793	5339	39	104	680	239	372

ANNUAL REPORT OF THE CHIEF SANITARY INSPECTOR.

Health Office,
Town Hall,
Sunderland.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have the honour of submitting to you my Fifteenth Annual Report, giving detailed information of the work performed by the Sanitary Inspector's Staff during the year ending 31st December, 1909.

INSPECTIONS.

During the year the Inspectors have made 60,057 inspections, which include 3,217 inspections of Factories, Workshops, and Workplaces, 517 inspections of Domestic Workshops and Outworkers, 690 inspections of Bakehouses, 1,030 inspections of Cowsheds, Dairies, and Milkshops, 3,949 inspections of Slaughter Houses and Butchers' Shops, Provision Stores, etc., and 278 of Common Lodging Houses.

The inspection of dwelling houses, including tenemented property, number 32,502, and in respect of Infectious Disease notifications 1,499 visits were made, to make inquiries as to probable source of infection and to leave verbal or printed instructions as to taking precautions to prevent or check the spread of disease, etc.

Advisory visits and consultative appointments with owners, agents, builders, and plumbers number 900.

During work in progress, inspections and re-inspections were made to the number of 8,640.

The Inspectors also made 971 calls in quest of information, serving of notices, etc., connected with the work of the Department. (See Table I.)

Special inspection was made of a large number of disconnecting traps and chambers for the information of the Local Government Board Departmental Committee, who were making inquiries as to the value or otherwise of the disconnecting trap in house drainage; the total number of chambers inspected was 1,218. 3·3 per cent. of disconnecting traps were found choked, 6·4 per cent. of cleansing eyes displaced, 2·8 per cent. of chambers showed accumulation of sewage, 1·2 per cent. showed evidence of previous accumulation, 1·9 per cent. of air inlets were found defective. Full particulars were forwarded to the President of the Local Government Board.

NUISANCES.

During the year the number of notices served for the abatement of nuisances under the various Public Health Acts, Bye-Laws, and Regulations amounted to 11,846; of these 10,466 were Intimation or Informal Notices, 1,380 were Statutory Notices. Daily inspection of different portions of each district were made by each Inspector, many nuisances being abated without delay by direct request to the occupier or owner, by which action the service of notice becomes unnecessary. (See Tables.)

457 ash-bins out of repair were replaced by new ones; 318 broken or otherwise defective w.c. basins were replaced by 318 new wash-down pedestal basins. (See Table IV.)

OVERCROWDING.

45 notices were served to abate overcrowding, compliance with which rendered magisterial proceedings unnecessary. During the last two years, owing to the severe depression in trade, overcrowding in the Borough has been of an exceptional character; great tact and discretion has had to be exercised so

as not to be too exacting on the occupiers and cause avoidable hardship. As a general rule, it is only through stress of circumstances, caused by unemployment, that the respectable working class ever offend by overcrowding.

DRAIN TESTING.

The drains of 98 dwelling houses have been tested, by request, 43 of which proved defective. 174 were tested on suspicion of a nuisance, generally arising from personal observations by the Inspectors; suspicion proved correct in 70 cases. 212 tests were made of house drains and sanitary fittings, after cases of Enteric Fever or Diphtheria had occurred on the premises, and in 27 cases defects more or less serious were discovered. 1,314 new drains were tested by the water test, and 73 defects were discovered, the total number of drains tested being 2,136. (See Table V.)

COMPLAINTS.

The number of complaints received at the office during the year number 225, of these 31 on investigation proved groundless. 16 applications were received to test the drainage system of large houses, either as a measure of precaution or on the advice of the medical attendant. (See Table X.)

STRUCTURAL ALTERATIONS.

The number of privies and ashpits abolished and water closets substituted number 686.

Drains of 621 premises were either repaired or reconstructed. 50 bath, sink, or lavatory waste pipes were renewed; the length of new earthenware drain pipes laid or re-laid amounted to 16,953 feet of 4-inch pipes; 169 feet 6-inch pipes; defective soil and outlet ventilating shafts were replaced by heavy 4-inch cast iron soil and ventilating pipes to the extent of 628 feet. (See Table IV.)

INFECTIOUS DISEASES.

No case of Small-pox was notified in the Borough during the year.

The number of visits made by the Inspectors after cases of Enteric Fever, Scarlet Fever, and Diphtheria number 1,330.

Cholera and Small-pox contacts caused 169 visits. (See Table I.) For disinfection see Table VII.

TENEMENTED HOUSES.

The usual care and attention has been made in inspecting tenemented house property, no less than 21,195 visits having been made; 5,755 notices were served on tenants to limewash yard, passage, etc.; 393 notices have been served on owners to limewash places used in common by tenants. (See Tables I. and II.)

DAIRIES, COWSHEDS, AND MILKSHOPS.

We have at present 13 Cowsheds within the Borough, being one less than last year. These Cowsheds provide accommodation for 186 cows. The number of names on the register for the sale of milk is 590, which includes the names of 47 farmers who reside without, but who retail milk within, the Borough. The whole of the Milkshops have been regularly visited, 1,030 inspections having been made. It was found necessary to issue 148 notices for infringement of the regulations, but in the majority of cases a verbal notice from the Inspector was sufficient. In 8 cases where Infectious Diseases were notified from a milk shop the sale of milk was discontinued until the removal or recovery of the patient and disinfection of the premises. (See Table VIII.)

SLAUGHTER HOUSES AND BUTCHER SHOPS.

During the year I have inspected the whole of the Slaughter Houses within the Borough, and found there were 136 premises wherein slaughtering takes place. A detailed report on the condition of these premises has been prepared and is to be considered by the Committee at an early date. These premises are inspected as regularly as practicable, 3, 206 visits having been made. For food seized and destroyed see Table VI.

COMMON LODGING HOUSES.

There are 20 Common Lodging Houses, with accommodation for 827 lodgers. The keeper of one Common Lodging House died; the house was re-registered after alterations and improvements of the sanitary arrangements. (Table IX.)

OFFENSIVE TRADES.

The offensive trades carried on in the Borough number 170; these have been regularly visited. (Table XI.)

FACTORIES AND WORKSHOPS.

The Factories in the Borough number 244. On the register there are 544 Workshops and 111 Workplaces. There are also 146 Domestic in the town, making in all a total of 899. (Tables XV. and XVI.)

OUTWORKERS.

The total number of lists returned in compliance with Section 107 Factories and Workshops Act is 90, as against 88 last year, giving 227 names, showing an increase of 7 Outworkers on last year. With but one or two exceptions the premises occupied by Outworkers are kept very clean. No notafiable case of Infectious Disease has been reported from Outworkers' premises. (See Table XIV.)

SAMPLES OF FOOD, DRUGS, AND WATER.

The number of samples taken during the year totalled 536; of these 168 were formal and 104 being informal samples taken under The Sale of Food and Drugs Act, and 264 samples of Water and Milk were taken for bacteriological examination (for detailed results of which see Medical Officer of Health's Report). Of the samples taken under the Sale of Food and Drugs Act 7 were the subject of legal proceedings, results of which will be found in Table. (See Tables XX. and XXI.)

CLERICAL WORK.

There were reported to the Health Committee 156 persons who had failed to comply with notices served upon them requiring the abatement of nuisances, when the Committee gave instructions for summonses being issued. Letters were sent to the persons responsible, 142 complied with the notices without further action, but in the remaining 14 cases summonses were issued. (See Table XIX.)

The following correspondence, circulars, etc., have been sent out, in addition to notices, reports, and the ordinary routine work of the office:—

Circular letters notifying outbreaks of Infectious Diseases in dwelling houses were sent as follows:—

To the Infirmary	104
To the Public Libraries	364
To the Public Laundries	1,092

To the Day Schools 651 circular letters were sent, and 329 to Sunday Schools; 90 circular letters were sent to Firms employing Outworkers, requesting them to forward lists of Outworkers to this Department; 835 letters were written, while 411 circular letters were dispatched from the office respecting notices not complied with.

In conclusion, I have again the satisfaction of recording the loyal and consistent co-operation from each member of the Health Office Staff, and especially from my Deputy, Mr. J. S. Watson.

I am,

Gentlemen,

Your obedient Servant,

JOHN PENNOCK,

Chief Sanitary Inspector.

April, 1910.

TABLE I.

Showing Visits made by each Inspector.

INSPECTIONS.	No. 1 District.	No. 2 District.	No. 3 District.	No. 4 District.	No. 5 District.	No. 6 District.	No. 6A District.	Disinfector	Workshops Inspector.	Totals.
INSPECTION OF WORKSHOPS, &c. :—										
Factories	...	...	...	...	...	...	...	...	867	867
Workshops	...	...	...	5	...	2	...	...	1951	1958
Workplaces (including Restaurant Kitchens)	...	...	...	...	...	...	..	...	392	392
Domestic Workshops	...	...	...	...	...	...	...	...	196	196
Outworkers	...	...	...	...	...	...	...	...	321	321
Employers of Outworkers	...	...	...	...	...	...	...	...	23	23
Shop Hours Act : "Inquiries"	..	...	...	...	...	...	...	...	569	569
Bakehouses	...	...	2	2	...	...	...	...	686	690
Laundries	...	...	...	10	...	...	...	...	14	24
Cowsheds	1	65	7	10	10	8	9	...	30	140
Dairies and Milk Shops	76	...	42	8	96	...	55	...	613	890
Ice Cream Shops	...	...	...	...	...	...	...	...	26	26
Slaughter Houses and Butchers' Shops	18	2965	17	66	46	54	40	...	...	3206
Fish and Fruit Shops	12	559	6	77	81	5	3	...	...	743
Appointments and Advisory Visits	93	126	66	110	370	37	98	...	...	900
Visits to Dwelling Houses	609	910	2481	1482	2569	479	2777	...	...	11307
Dwelling Houses, *re* Infectious Disease	159	...	182	217	163	76	105	428	...	1330
Dwelling Houses, *re* Smallpox and Cholera and Contacts	...	...	31	86	40	9	3	...	...	169
Tenemented Houses	4692	4123	...	2405	4094	3480	2036	365	...	21195
Common Lodging Houses	76	138	...	...	...	...	64	...	...	278
Inspection of Works in Progress, Drains, W.C.'s, &c.	1058	1084	1657	1270	993	1546	1032	...	...	8640
Calls made, etc.	425	322	419	625	701	898	398	...	...	3788
Sale of Food and Drugs Acts	22	...	90	15	28	15	15	...	85	270
Bacteriological Samples	41	...	37	42	40	...	40	...	...	200
INSPECTION OF OFFENSIVE TRADES, &c. :—										
Tripe and Skin Preparers, &c.	...	104	...	...	...	...	3	...	...	107
Fried Fish Shops	...	...	...	26	6	2	...	...	533	567
Marine Stores	...	...	...	...	24	...	2	...	239	265
Hide, Skin and Tallow Dealers	...	...	...	5	...	1	...	...	...	6
Stables, Mews, &c.	3	...	...	...	3	10	3	...	...	19
Other Visits	...	...	...	7	...	35	14	...	915	971
Total Inspections	7285	10396	5037	6468	9264	6657	6697	793	7460	60057

TABLE II.

SUMMARY OF NOTICES for the Abatement of Nuisances served during 1909.

Nature of Notice.	Preliminary.		Statutory.		Totals
	Owner.	Occupier	Owner.	Occupier	
To Cleanse Premises	2	36	..	9	47
„ „ after Infectious Disease	...	811	...	...	811
To Abate Nuisances arising from					
„ Drains	309	...	169	2	480
„ Water-Closets	396	5	200	7	608
„ Privies and Ash-Pits	409	...	470	3	882
„ Yard Pavements	137	...	59	...	196
„ Dilapidated Houses	314	...	134	..	448
„ Defective Spouts, &c.	412	...	137	...	549
„ Animals and Fowls	3	13	...	2	18
„ Overcrowding	21	20	2	2	45
„ Manure and Refuse	26	44	17	10	97
To Limewash Dwelling Houses	...	4666	...	...	4666
„ „ Yards and Passages	393	1089	...	...	1482
„ „ Factories, Workshops, &c.	...	120	...	...	120
To Abate Other Nuisances	440	800	156	1	1397
Totals	2862	7604	1344	36	11846

TABLE III.

Showing Notices served in each District.

	No. 1 District.	No. 2 District.	No. 3 District.	No. 4 District.	No. 5 District.	No. 6 District.	No. 6A. District.	Workshops' Inspector.	Totals.
To Cleanse Premises	11	...	6	16	11	3	...	...	47
To Cleanse Premises after Infectious Disease	112	68	162	178	155	57	79	...	811
To abate Nuisances arising from :—									
Drains	64	75	20	73	103	63	75	7	480
Water-Closets	129	162	25	37	100	81	69	5	608
Privies and Ashpits	138	122	75	81	259	111	67	29	882
Yard Pavements	19	48	4	18	46	52	8	1	196
Dilapidated Houses	92	170	5	32	89	24	30	6	448
Defective Spouts, &c.	95	97	29	68	125	83	52	...	549
Animals and Fowls	1	11	...	...	3	...	3	...	18
Overcrowding	3	20	...	...	4	10	6	2	45
Manure and Refuse	3	52	3	7	8	7	1	16	97
To Lime-Wash Dwelling Houses	1338	1575	...	275	780	43	655	..	4666
„ Yards and Passages	242	...	...	174	259	780	27	...	1482
„ Factories, Workshops, &c.	...	...	...	.	..	...	...	120	120
To Abate Other Nuisances	69	...	11	...	11	29	54	1223	1397
Totals	2316	2400	340	959	1953	1343	1126	1409	11846

TABLE IV.

WORK DONE.

Waterclosets :—		Ashpits :—	
Old W.C. Basins removed ...	318	Repaired	36
New "Wash-down" Basins fixed	318	Abolished and dust bins substituted	552
W.C. Drains cleared and repaired	199	Dust Bins :—	
Urinals :—		Repaired	36
Cleansed or repaired.....	3	New galvanized iron bins provided.....	457
New Urinals provided.....	10	Yard Pavements :—	
Soil and Ventilation Pipes :—		Cleansed.....	578
Pipes repaired	13	Repaired	36
New Piping fixed (length) 2,599 ft.		Cemented or Paved	92
Flushing Cisterns :—		Dwelling Houses :—	
New Cisterns fixed	37	Internal repairs	396
Cisterns repaired	161	Roof	192
Drains :—		Spouts renewed or repaired	344
Drains unstopped.....	328	Overcrowding	45
,. repaired..	293	Domestic water supply provided	95
Bath, Sink, and Lavatory wastes pipes repaired ...	50	Animals kept as a nuisance..	18
New Stoneware Pipes laid (length), 169 ft. 6-in., 16953 ft. 4-in.		Cleanse and Limewash :—	
New heavy iron pipes laid (length), 628 ft. 4-in.		Dwelling rooms.....	3282
		Staircases and Passages	1605
		Sanitary conveniences.....	1346
Privies :—		Accumulation of Manure :—	
Repaired	19	Removed	51
Abolished	29		
Abolished and w.c.'s substituted	686		

TABLE V.

DRAIN TESTING.

Reasons for Testing.	Nature of Test.			Total.	Defective.
	Water.	Chemical.	Smoke.		
Drains Tested on Complaint	42	12	44	98	43
,, on Suspicion of Nuisance...	32	111	31	174	70
,, after Infectious Disease ...	40	148	24	212	27
Work in progress	1314	25	54	1393	73
Drains Retested	248	2	9	259	17
Totals	1676	298	162	2136	230

TABLE VI.

TABLE OF FOOD CONDEMNED AND DESTROYED.

Nature of Unsound Food.	Quantity.
Beef, 33 carcases	21,282 lbs.
Pork, 5 ,,	522 lbs.
Mutton, 2 carcases	140 lbs.
Viscera of Animals	65 sets.
Fish, 3 Boxes	420 lbs.
Tomatoes, 16 Boxes	144 lbs.
Plums, 438 Baskets	10,416 lbs.
Rasps	15 lbs
Red Currents	8 lbs.
Yeast, 24 Bags	168 lbs.

TABLE VII.

DISINFECTING.

Articles.	Disinfected.	Destroyed.	Rooms Fumigated.	No.
Beds	864	24		
Mattresses	319	17		
Blankets	1067	...		
Pillows	1665	24		
Quilts	1193	4		
Sheets	926	6		
Bolsters	664	1		
Shawls	147	...		
Carpets	155	2		
Sundries	1920	...		
Totals	8920	78		1865

TABLE VIII.

DAIRIES, COWSHEDS, AND MILKSHOPS.

Number of Cowsheds...13. Approximate Number of Cows...186. Number of Milk Shops on Register...590.	
Inspection of Cowsheds	140
„ Dairies and Milkshops	890
	1030
Notices to Register for Sale of Milk	131
Circular Letters	33
To Cease Selling Milk, contrary to Act	12
Dirty Milk Vessels	5
	181

REGISTERED COMMON LODGING HOUSES.

TABLE IX.

Locality of House.	No. of Rooms.	No. of Lodgers.	No. of Single Beds.	No. of Double Beds.	No. of Beds under the Registered Accommodation.
4 and 5, Bedford Street	12	78	78	—	—
3 and 4, Charles Street	11	37	37	—	—
41, 42, and 43, Spring Garden Lane	11	41	27	7	—
38, Spring Garden Lane	6	21	5	6	4
6, Maud's Lane	8	37	37	—	—
1, Horn's Lane	8	31	31	—	—
10, Church Street East	8	36	36	—	—
38 and 39, Lombard Street	3	9	9	—	—
2, Queen Street East	6	47	47	—	—
2, Arras Lane	6	52	38	1	12
3, Mill Street	8	22	22	—	—
3 and 4, Queen Street East	6	46	46	—	—
14 and 15, George Street East	17	46	36	5	—
29, High Street East	14	79	69	5	—
5 and 6, High Street East	14	185	185	—	—
170, High Street East	2	5	3	1	—
29, Warren Street	2	9	5	2	—
195½, High Street East	2	15	13	1	—
22, Lambton Street	6	25	25	—	—
51, High Street East	1	6	1	2	1
Totals	151	827	750	30	17

TABLE X.

COMPLAINTS RECEIVED AT THE HEALTH OFFICE,

and attended to during the year 1909.

Nature of Complaints.	Unfounded.	Totals.
Smoke Nuisance	1	4
Overcrowding	2	18
Defective Roofs and Spouts	...	27
Dirty Yards and Rooms	3	19
Yard Pavement out of Repair	...	1
*Drains out of Repair	10	55
Animals kept as a Nuisance	...	6
Water Closets out of Repair	5	40
Privies and Ashpits out of Repair	1	4
Miscellaneous	9	51
Total	31	225

* 16 of these were requests to test drains, not actual complaints.

TABLE XI.

OFFENSIVE TRADES.

The Offensive Trades carried on in the Town are as follows :—

Chemical Works	1
Fish Curing Houses	4
Fish Frying	108
Gut Scraping Houses	3
Marine Stores	36
Oil and Grease Works	2
Paint Works	2
Skin Warehouses	3
Tallow Melting Works	1
Tripe Preparers	10
Total	170

TABLE XII.

REPORTS FROM INSPECTORS.

District.	To Borough Surveyor.	To Cleansing Superintendent.	To Chief Inspector.	To Water Company.
1	3	19	2	...
2	6	10	16	...
3	8	18	...	...
4	3	15	9	...
5	7	27	8	...
6	9	20	17	3
6a	1	24	8	6
Total ...	37	133	60	9

TABLE XIII.

FACTORIES AND WORKSHOPS.

The following work has been performed by the Inspector appointed for this purpose.

Visits of Inspection.	
Factories and Workshops :—	
Factories	867
Workshops	1951
Workplaces, including Restaurant Kitchens	392
Domestic Workshops and Laundries	210
Outworkers, Home	321
„ Employers of	23
Offensive Trades	1034
Bakehouses	686
Shop Hours' Act, Enquiries	569
Seats for Shop Assistants	35
Dairies and Cowsheds	63
Milk Shops	580
Ice Cream Shops	26
Food and Drugs Acts	85
Other Visits	618
Total Inspections	**7460**

TABLE XIV.

Shewing the Notices, &c., served by the Workshops Inspector.

To Cleanse or Limewash Factory or Workshop	66
,, ,, Bakehouses	22
,, ,, Restaurant Kitchens	2
,, ,, Sanitary Conveniences	30
To abate Nuisances from :—	
,, Defective Sanitary Conveniences	29
,, W.C. opening direct to Factory	5
,, Defective Drains	7
,, Fat Rendering	1
,, Walls, Floors, Ceilings, Roofs, Spouts, etc.	5
,, Bakehouse Floor	1
,, Yard Pavement	1
,, Gas Stoves	4
,, Accumulations of Trade Refuse	16
,, Overcrowding	2
To provide Light and Ventilation	4
,, Suitable and sufficient Sanitary Conveniences	9
,, Separate Sanitary Conveniences for Sexes	10
,, Partitions to Sanitary Conveniences	7
,, Lists of Outworkers	90
,, Labels for Margarine	4
To Display Abstract, Factory and Workshop Act	15
,, ,, Shop Hours Act	236
To Register for Sale of Milk	131
,, ,, Circulars	33
To Cleanse Dairy and Milk Vessels	5
To cease using Dairy or Milkshop contrary to Act	12
To protect Milk Vessels from dust or other contaminations	592
Reports to H.M. Factory Inspector :—	
No Abstract Displayed	13
Defects Remedied	27
Removals	3
Anonymous Letter	1
Reports to other Authorities	1
Other Reports :—	
To Borough Surveyor	7
,, Medical Officer of Health	4
,, Chief Constable	2
,, Chief Inspector	9
,, Cleansing Superintendent	1
,, Home Office	1
Totals	1408

TABLE XV.

FACTORY AND WORKSHOPS ACTS

Showing the Number of Registered **Factories** in the Borough.

Factories.	No. of Factories.
Ale Bottlers	7
Artificial Stone Makers	2
Bakers	6
Bicycle Makers	2
Block and Mast Maker	1
Bookbinders	3
Boot and Shoe Makers	9
Bottle Maker	1
Box Maker	1
Brass Founders	8
Brewers	5
Brick Maker	1
Brush Makers	2
Cabinet Makers	6
Carriage Builders	3
Cattle Spice Maker	1
Cement Manufacturer	1
Compass Makers	4
Coppersmith	1
Dyer	1
Electrical Engineers	4
Engineers	25
Electro Plating	1
File Maker	1
Finings Manufacturer	1
Firewood Factory	1
Galvanizer	1
Gas Manufacturer	1
Glass Manufacturers	2
Ice Cream Maker	1
Ironfounders	9
Joiners	24
Laundries	7
Lead Glazing	1
Millers	5
Mineral Water Manufacturers	6
Model Maker	1
Organ Builder	1
Paint Manufacturers	2
Paper Bag Maker	1
Picture Frame Maker	1
Potters	2
Plumbers	2
Preserve Makers	3
Printers	30
Rope Manufacturers	6
Sail and Flag Makers	2
Sausage Maker	1
Sculptor	1
Shipbuilders and Repairers	11
Ships' Lamp Makers	2
Steel Manufacturers	3
Steering Wheel Maker	1
Stocking Knitter	1
Stone Dressers	2
Tent Maker	1
Timber Sawyers	10
Tobacco Manufacturer	1
Whiting Manufacturer	1
Window Blind Maker	1
Wood Turners	2
	244

TABLE XVI.

Showing the Number of Registered Workshops, Nature of Trades, and Number of Employees.

Trades.	Number of each.	Employing		Trades.	Number of each.	Employing.	
		Males.	Females.			Males.	Females.
Bakers and Confectioners..	77	67	161	Motor Repairer	1	2	...
Bicycle Makers.....	6	10	...	Paper Bag Maker	1	...	3
Blacksmiths	16	52	...	Piano Repairers	1	4	...
Block and Mast Makers...	2	5	...	Pickle and Sauce Manufacturer	1	...	3
Boat Builders	4	15	...	Picture Frame Makers ...	6	11	1
Botanical Brewer.....	1	4	..	Pipe Makers.....	3	12	3
Boot and Shoe Makers ...	40	72	...	Plasterers	2	17	...
Brush Makers	1	5	4	Plumbers	25	125	...
Cabinet Makers	24	77	...	Rope Maker	1	6	...
Cartwrights	7	25	...	Sausage Maker.....	2	2	...
Carver and Guilder	5	7	...	Sculptors	6	23	...
Coach Builder	1	12	...	Stained Glass Artist	1	1	...
Coopers	3	12	..	Stocking Knitters	4	...	18
Disinfectant Maker.....	1	1	2	Sugar Boilers	3	5	11
Electrical Engineers	1	3	...	Tailors	65	219	127
Engravers	2	5	...	Tinsmiths	7	11	..
French Polishers.....	7	20	...	Umbrella Maker	1	1	1
Gun Maker	1	1	...	Upholsterers.....	9	42	16
Harness Makers	7	23	...	Watchmakers	10	23	9
Horse Shoers	10	29	...	Water Proof Manufacturer	1	2	...
Joiners	51	172	...	Weighing Machine Maker	2	7	...
Laundries	2	...	12	Window Blind Maker ...	1	1	...
Mattress Makers	5	36	14	Wire Workers	3	5	...
Milliners and Dressmakers	112	...	974				
Model Makers	2	11	...				
				Totals	544	1183	1359

TABLE XVII.

SHOWING THE NUMBER OF DOMESTIC WORKSHOPS.

Nature of Business.	Number of each.
Bakers and Confectioners	61
Bicycle Makers	1
Boot and Shoe Repairers	22
Cloggers	2
Coopers	2
Dressmakers	14
French Polishers	3
Ice Cream Makers	12
Joiners	8
Laundries	2
Locksmith	1
Picture Frame Maker	1
Stocking Knitter	1
Tailors	7
Tinsmiths	4
Toymakers	2
Watchmakers	3
Total	146

TABLE XVIII.

SHOWING THE NUMBER OF WORKPLACES.

Nature of Business.	Number of each.
Ale Bottler	1
Auctioneer	1
Bacon Washer	1
Bottle Exchange	1
Builders' Merchants	6
Haulage Contractors	16
Mews	12
Oil Works	1
Photographers	10
Pottery Warehouse	1
Painters	2
Restaurant Kitchens	33
Slaters	3
Salt Packers	6
Shipchandlers	2
Sign and Ticket Writers	3
Timber Merchants	1
Warehousemen	8
Wharfingers	3
Total	111

TABLE XIX.

MAGISTERIAL PROCEEDINGS.

Particulars of Complaints.	No.	How disposed of.	Penalties Imposed. £ s. d.
Spouts out of repair	4	Withdrawn on abatement of nuisance and paid costs.	
Yard pavement out of repair ..	1	do.	
Privies and Ashpits out of repair	2	do.	
Water-closets out of repair	2	do.	
Accumulation of offensive refuse	1	do.	
Adulterated Milk	7	1 withdrawn, 5s. put into poor box. 4 dismissed. 1 fined £1 and costs .... 1 ,, 10s. ,, ...	 1 0 0 0 10 0
Adulterated Lard	2	1 ,, £5 ,, ... 1 ,, £1 ,, ...	5 0 0 1 0 0
Refusing to comply with an Order prohibiting the sale of milk from tuberculous cattle (Borough of Sunderland Act, 1907)	1	Fined £1 and costs.....	1 0 0
Nuisances arising from offensive trades—Fried fish shops	2	Withdrawn on abatement of nuisance and paid costs.	
Permitting offensive matter to flow into the sewer	1	Fined £1 and costs.....	1 0 0
Drains out of repair	2	Withdrawn on abatement of nuisance and paid costs.	
Premises in a foul state.....	1	do.	
Keeping of Animals	1	do.	
Breach of Bye-Law 27	5	do.	

TABLE XX.

ANALYSIS OF FOOD AND DRUGS.

Articles Analysed.	No. Analysed.	Result of Analysis.		Extent of Adulteration.	Action taken.
		Genuine.	Adulterated.		
Milk	111	89	22		
Separated Milk	7	7			
Milk				3·37 per cent. def. in milk fat, 1·67 per cent. def. in non-fatty solids	Letter of Caution.
				5·0 per cent. def. in milk fat	do.
				5·0 do. do.	do.
				3·35 do. do.	do.
				6·67 do. do.	do.
				6·6 do. do.	do.
				6·6 do. do.	do.
				6·6 do. do.	do.
				6·6 do. do.	do.
				16·6 do. do.	do.
				1·6 do. do.	do.
				3·3 do. do.	do.
				6·6 do. do.	do.
				10·0 do. do.	do.
				0·05 per cent. def. in Boric Acid	
				10·07 per cent. def. in milk fat	Proceedings withdrawn, 5/- put in Poor Box.
				20·0 do. do.	Fined £1 and costs.
				5·0 per cent. def. in milk fat, 4·37 per cent. def. in non-fatty solids	„ 10s. „
				13·3 per cent. def. in Mllk fat	Dismissed.
				10·0 do. do.	do.
				20·0 do. do.	do.
				7·57 do. do.	do.
Lard	13	11	2	45 per cent. Cotton Seed Oil, 10 per cent. Beef-stearine, 23 per cent Water	£5 and Costs.
				70 per cent. Cotton Seed Oil, 15 per cent. Beef-stearine	£1 „
Butter	13	13			
Cheese	3	3			
White Pepper	3	3			
Compound Liquorice Powder	3	3			
Gregory's Powder	2	2			
Castor Oil	2	2			
Cod Liver Oil	1	1			
Whiskey	4	3	1	25·8 per cent. under proof	Letter of Caution.
Gin	2	2			
Brandy	2	2			
Rum	2	1	1	26·2 per cent. under proof	do.
Totals	168	142	26		

TABLE XXI.

INFORMAL SAMPLES FOR ANALYSIS.

By taking informal samples a wider field is worked with greater economy, no proceedings can follow, but valuable information is often obtained. When adulteration is detected, further samples under legal conditions are taken, with a view to further action.

Articles Analysed.	No. Analysed.	Result of Analysis.		Extent of Adulteration.	Action taken.
		Genuine.	Adulterated.		
Separated Milk	3	3	...		
Condensed Skmd Milk	3	3	...		
Cream	6	6	...	(1) 0·47 per cent. boric preservative (2) 0·52 „ „ „ (3) 0·36 „ „ „ (4) 0·46 „ „ „ (5) 0·53 „ „ „	
Lard	13	13	...		
Nutola Lard.....	1	1	...	Mixture of cocoanut and palm oil.	
Sauce.....	2	2	...		
Baking Powders	4	4	...		
Gravy Salt	1	1	...		
Butter	22	22	...		
Cheese	2	2	...		
New Honey.....	1	1	...		
Cocoa Essence..... ..	3	3	..		
Coffee	3	3	..		
Plum Jam	1	1	...	Small amount of artificial colouring matter.	
Compound Liquorice	2	2	...		
Garden Peas.....	1	...	1	Copper compounds equivalent to 0·295 grains of metallic copper or 1·158 grains of crystallized sulphate of copper per lb. of peas and liquid.	
Gregory Powder	1	1	...		
Cocoa	1	1	...		
White Pepper	3	3	...		
Castor Oil.....	1	1	...		
Precipitate of Sulphur	1	1	...		
Olive Oil	1	1	...		
Tartaric Acid	3	3	...		
Cream of Tartar	3	3	...		
Citric Acid	2	2	...		
Paregoric	1	1	...		
Arrowroot	2	2	...		
Flour.....	3	3	...		
Margarine	4	4	...		
Lemon Cheese	1	1	...		
Whiskey	5	4	1	Excess of water 2·87. 27 per cent. under proof.	
Corn Flour	1	1	...		
Chicory.....	1	1	...		
Honey	1	1	...		
Flour of Sulphur.....	1	1	...		
Totals	104	102	2		

COUNTY BOROUGH OF SUNDERLAND.

METEOROLOGICAL AND DISEASE CHART FOR 1909.

JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JAN. 1910

2 9 16 23 30 6 13 20 27 6 13 20 27 3 10 17 24 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1

BAROMETER AND MOISTURE IN THE AIR (GLAISHER'S TABLES).

31 / 30 / 29 — 100 — 90 — 80 — 70

THERMOMETERS.

60 — 50 — 40 — 30

THERMOMETERS.
UPPER BLACK LINE = MAXIMUM
LOWER " " = MINIMUM
DRY BULB.--RED LINE
WET " RED DOTTED LINE
FREEZING POINT

THE BLUE COLOUR REPRESENTS THE HUMIDITY OF THE AIR.

RAINFALL IN INCHES

·35 ·18 ·34 ·05 ·01 ·62 ·32 ·05 ·20 1·36 ·64 ·34 ·63 1·27 ·00 ·66 ·95 ·92 ·00 ·11 ·32 1·2 ·17 ·08 ·00 2·16 ·12 ·81 ·38 ·54 ·70 ·28 ·21 1·51 ·38 ·41 ·65 ·04 ·46 ·62 ·41 ·50 ·74 ·71 ·11 ·00 ·41 ·65 1·16 1·31 ·14 ·84 ·33

DEATHS FROM ALL CAUSES.

90 — 85 — 80 — 75 — 70 — 65 — 60 — 55 — 50 — 45 — 40 — 35 — 30

The Average Number of Deaths per Week, in 1909, was 52·1 = a Death-rate of 17·0 per 1,000 per annum.

THE BLUE COLUMNS SHOW THE WEEKLY AVERAGE EARTH TEMPERATURE AT A DEPTH OF 4 FEET.

DEATH RATE

23·9 17·0 26·2 16·7 23·6 18·7 20·1 18·6 22·0 25·2 21·3 21·3 22·6 16·1 22·9 20·6 19·7 20·6 16·7 17·0 18·0 15·0 11·4 14·7 17·0 9·8 16·0 11·4 13·7 13·4 14·1 10·4 8·2 12·1 12·4 15·4 16·1 13·7 11·1 13·8 13·8 12·7 12·8 15·4 13·8 15·4 21·3 16·0 20·0 23·6 20·3 18·6 22·3

MEASLES AND DIARRHŒA

DEATHS FROM MEASLES

DEATHS FROM DIARRHŒA

21 — 20 — 19 — 18 — 17 — 16 — 15 — 14 — 13 — 12 — 11 — 10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

THE YELLOW COLUMNS REPRESENT THE TOTAL WEEKLY RAINFALL IN TENTHS OF AN INCH.

DIPHTHERIA AND WHOOPING COUGH

DEATHS FROM DIPHTHERIA

DEATHS FROM WHOOPING COUGH

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

ENTERIC FEVER

CASES OF ENTERIC FEVER

DEATHS FROM ENTERIC FEVER

9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

CHEST DISEASES AND CONSUMPTION

DEATHS FROM NON-TUBERCULAR RESPIRATORY DISEASES

DEATHS FROM CONSUMPTION OF THE LUNGS

28 — 27 — 26 — 25 — 24 — 23 — 22 — 21 — 20 — 19 — 18 — 17 — 16 — 15 — 14 — 13 — 12 — 11 — 10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

PLAN

OF THE BOROUGH OF

SUNDERLAND

The dotted lines show the divisions of the Borough into Registration Sub-districts, whose Names are indicated as follows:—

S.E.—Sunderland East; **S.W.** Sunderland West; **S.N.**—Sunderland North.

Showing the Deaths from Diarrhœa and Consumption, and the cases of Diphtheria, Enteric Fever, and Continued Fever notified during the year 1909.

	ESTIMATED POPULATION.
Sunderland East Sub-District	58,974
Sunderland West Sub-District	65,570
Sunderland North Sub-District	34,595
Whole Borough	159,139

Cases of Enteric and Continued Fevers in RED.
Cases of Diphtheria in YELLOW.
Deaths from Diarrhœa in GREEN.
Deaths from Consumption in BLACK.

S.N.

S.W.

S.E.

Municipal Boundary